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AIR FORCE INFORMATION MANAGEMENT (IIM):
A 1993 SNAPSHOT OF CURRENT
AND PROJECTED ROLES
OF ENLISTED INFORMATION MANAGERS

THESIS

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**AIR FORCE INFORMATION MANAGEMENT (IM):
A 1993 SNAPSHOT OF CURRENT AND PROJECTED ROLES
OF ENLISTED INFORMATION MANAGERS**

THESIS

**Presented to the Faculty of the Graduate School
of Logistics and Acquisition Management,
Air Force Institute of Technology
Air Education and Training Command
In Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Information Resource Management**

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December 1993

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Preface

This study concerns itself with the current practices that Information Management (IM) enlisted personnel perform, as well as their familiarity with projected future concepts within the IM career field. Lack of definition of future roles and responsibilities has been a major stumbling block in the path of IM personnel and is personified especially in the enlisted ranks. How can this dedicated group of men and women improve and innovate their field if the end goals, and immediate objectives, are not being effectively communicated to them?

Information Management, formerly Administration, has long been a secondary consideration of operational, and even support, organizations. Our mission was to handle the by-products of these other organizations. The onset of the computer age changed all that, however, as leadership became aware of the power of information--and information is built right into our name. The future of this career field depends on the quality and timeliness of the attainment of specific objectives, but more importantly the establishment of future, cutting-edge goals. Most essential is the transfer of this knowledge to the troops who must integrate it into their daily business regimen. The Information Resource Management Master's Program at the Air Force Institute of Technology (AFIT) is one example of how officers are being trained (although rather slowly) in the art of information handling. But how about the enlisted folks? The one point that was made abundantly clear in both our field survey and the Utilization and Training Workshop (U&TW) interviews was that enlisted personnel did not feel an adequate training program existed for either current or projected roles and responsibilities. Proper communication with the enlisted force is critical, and eventually will determine the survivability of the IM career field..

Captain Ted Roberts found the research for this topic to be an eye-opening, awe-inspiring experience. The dedication and determination of our IM enlisted force demands our immediate attention. A study such as this would have been impossible without the unswayable presence of Almighty God. Special consideration goes to my classmates; my loving parents (and best friends), Lt. Col. (USAF Ret.) Ted and Lana Roberts; and my thesis partner who cracked the proverbial whip when needed; and Chelsea and Cricket. A special thanks goes to all of them.

Captain Mary Duncan salutes the members of our career field for which this research was conducted. The enlisted troops make things happen. They deserve the best education possible to ensure they have the skills and knowledge necessary to succeed in this multifaceted environment.

The success of this research is due entirely to our Heavenly Father's answer to prayer. He was always there when I needed Him, as well as many times when I felt I didn't. Thanks to my son, Chris, for his patience and understanding while Mom was so busy studying these many months. Thanks to my parents, Robert and Norma Karloski, for their long distance support via AT&T. And, last but not least, thanks to my thesis partner, my "elder son," for his infamous "Mac-wizardry."

Ted L. Roberts

Mary E. Duncan

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Abstract

This study provides a preliminary view of the level of familiarity enlisted information managers have of changing roles, responsibilities, and initiatives within the Information Management career field. Using a three-phase investigative methodology that combined e-mail, interviews, and mail surveys, the authors addressed the changing roles and responsibilities of enlisted information managers and their familiarity with these changes.

This study found that although individuals agree that the role is changing and expanding, many are performing the traditional administrative taskings. The lower ranks still perceive themselves as "clerks," whereas senior enlisted members consider themselves "managers." Although the career field name changed to Information Management, the supporting attitude has not. The greatest changes of responsibility focus on the use of new automated tools. From the results of our survey it is apparent that enlisted members in the field are not familiar with concepts and initiatives which are being projected as future responsibilities. Knowledge level tends to increase as rank increases, but this familiarity-level is attributed primarily to personal research. Respondents perceived on-the-job training to be the most appropriate training method for teaching future concepts.

The major recommendation from this research is to increase the level of communication to career field members. Another recommendation focuses on the need to provide additional training to the NCO ranks in particular. Individuals would benefit from the development of other educational avenues besides Air Force technical training, such as courses at AFIT or through the Community College of the Air Force.

AIR FORCE INFORMATION MANAGEMENT (IM):
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I. Introduction

General Issue

During the last decade, the Air Force Information Management (IM) career field experienced dramatic changes in meeting its mission requirements--the management of information, in all forms, throughout its life cycle. These changes are due, in part, to the advent of automated technologies; the creation of legal documents, which mandate the way information is managed; and, the attitude that information is a valuable resource rather than a *free commodity*. As the mission changes, so does the role and responsibility of management personnel. The career field has made significant strides in identifying new requirements of the officer force. Unfortunately, the changing role of the enlisted corps in the evolving mission has not been revised, leaving many individuals unprepared and ill-equipped to meet these new mission demands.

During its meeting in November 1991, members of the IM Chief Enlisted Manager Committee focused much attention on the future of the career field, with an emphasis on the enlisted force. Members agreed that the most important task was to ensure the enlisted force "remain strong, viable, and accept the ultimate challenges driven by increased changes in Information Management technology" (Derrick, 1991:2). The following vision statement emerged from the conference: "Efficiently produce value-added Information

Resource Management (IRM), quality products and service through teamwork and customer focus " (Derrick, 1991:4).

Several long- and short-term goals were developed by the Chief Enlisted Managers to ensure this vision could be attained. These goals centered on development and standardization, and encouraging use of automated technologies (Derrick, 1991:4). Specifically, action items were created to evaluate the enlisted Information Management "702X0" Specialty Training Standard (STS); to update the Airman Information Management Career Field description (Air Force Regulation 39-1); and to ensure that training was revised to incorporate newly developed technologies (Derrick, 1991:4).

As a member of one of these action teams, CMSgt William McDonough, the senior enlisted IM in Air Force Intelligence Command, identified the need for a detailed study of enlisted roles in the IM career field in his proposed thesis topic to the AFIT GIR program. McDonough stated that "the assumption to date has been [that] enlisted personnel only input data into computers, not manage an organization's information flow" (1992:1). This attitude is indeed changing. With the downsizing of the officer force and fewer resources with which to accomplish the mission, many enlisted members are finding themselves thrust into positions requiring knowledge of IRM principles. "Increasingly, our enlisted members find themselves challenged to improve information flow, manage small networks and integrate various information sources" (McDonough, 1992:1).

In order to ensure an enlisted force qualified to meet these new mission requirements, it is essential that a comprehensive education program be established. However, before such a program can be developed, the actual role of the enlisted force must first be redefined. Only after the role and key

responsibilities have been identified can a thorough educational program be developed. This identification process provides the basis for this research.

Specific Problem Statement

The focus of roles and responsibilities within IM is changing rapidly; however, the implications of such changes have not been effectively communicated to the enlisted force. To date, in fact, no systematic study has been conducted to determine enlisted information managers' awareness of changing roles and responsibilities. Therefore, this statistically-based study provides a preliminary view of the level of familiarity enlisted information managers have of changing roles, responsibilities, and initiatives within the IM field.

Investigative Questions

The following questions address the future role of the IM enlisted force and member awareness of IM initiatives:

- (1) Which roles and responsibilities of enlisted information managers are changing?
- (2) Has automation contributed to these changes?
- (3) Are enlisted information managers in the field aware of innovative programs and concepts which senior leadership is projecting to be included as future responsibilities of the IM career field?
- (4) What are the preferred methods of training on these future initiatives?

Scope of the Research and Restrictions

This thesis forecasts the future role and responsibilities of the enlisted Information Management corps only: specifically, enlisted members assigned

to the "702X0" career field as outlined in Air Force Regulation 39-1.

Although considered a part of the information management spectrum, enlisted personnel in the "703X0" career field, Reprographic Specialists, will not be included. This career field has a separate career tract and training plan than does the "702X0" field.

Furthermore, this research encompasses the overall responsibilities of information managers, their roles and responsibilities within functional IM activities, with a special focus on IRM issues. Previous studies, such as those completed by AFIT researchers Coleman, Bass, and Cook, address only the development of office automation technologies and basic computer literacy.

Key Terms and Definitions

Information Resource Management (IRM) - "The policy, action, or procedure concerning information (both automated and non-automated) that management establishes to serve the overall current and future needs of the organization. IRM policy and procedures would address such areas as availability, timeliness, accuracy, integrity, privacy, security, auditability, ownership, use, and cost-effectiveness of information" (DoD Dir 7740.1, 1989:2-1).

Enlisted Information Manager - An enlisted member of the United States Air Force in the rank of Airman through Chief Master Sergeant holding a primary Air Force Specialty Code (AFSC) of 702X0.

Thesis Organization

Chapter I provides background for the study, identifies the problem, and further refines the scope of the issues to be addressed. Chapter II summarizes the results of the literature review, covering details of the Information

Resource Management program development and its effects on the IM career field; future requirements as outlined in DMRD 918, and the Corporate Information Management (CIM) program; automation initiatives; concerns voiced by key IM personnel; prior research completed; and, finally a discussion of changing roles and responsibilities and the need for strategic planning. Chapter III outlines the methodology used to collect data from functional experts, participants of the Enlisted 702X0 Utilization and Training Workshop, and a representative sample of the enlisted IM population. Chapter IV presents comments made by functional experts and senior enlisted management, as well as the results and analysis of the survey administered to the sample group. Chapter V provides a summary of the study, draws conclusions from the data, and makes recommendations to senior leadership within IM.

II. Literature Review

Introduction

This chapter reviews pertinent literature concerning why the IM career field has undergone major changes in meeting its mission requirements over the past decade. The review begins by defining the Information Resource Management (IRM) concept and then historically examines the development of the program within the Federal government. The review also focuses attention on the legal basis for IRM, giving special attention to the establishment of IRM within the Air Force. The discussion continues with an introduction of the basic concepts behind Defense Management Review Decision (DMRD) 918 and the development of the Corporate Information Management (CIM) program, followed by an overview of recent automation initiatives within the Information Management career field. The attitudes of key IM personnel toward these changes are next addressed, as is a review of previous research conducted at the Air Force Institute of Technology. This section concludes by addressing the changing roles and responsibilities of Information Managers within the Air Force and establishing the need for critical strategic planning.

Information as a Resource

Over the last decade, success of an organization has become more and more dependent upon the way in which it manages information. Information is now recognized as a resource that must be managed just as carefully as an organization's financial assets, employees, raw materials, and products (Johnson, 1992:6; Kerr, 1991:1-13).

If information is so critical to an organization's success, what must be

considered in managing this resource? Denis Connor defines information resource management (IRM) as "an approach to identify, organize and structure an organization's decision making, control and operational data based on an analysis of the organization's mission and purpose, management's strategic, tactical and operational business objectives, critical success factors (CSFs), strategic directions, high-level information requirements, and existing data as recorded in computer and manual files" (1988:14).

Connor further explains that the concept of IRM is founded on the principle of developing "a corporate information architecture" (1988:15) which encompasses the data and application requirements of the organization as a whole. As defined above, IRM identifies not only the present needs of the organization, but also future requirements as well.

IRM Within the Federal Government

This new attitude toward information is prevalent not only in corporations within the private sector, but also throughout agencies in the federal government. "Information is to government what manufactured goods are to private industry...the key commodity produced and used by government to perform its functions" (Johnson, 1992:6). The management of information, however, is not an easy task. This is due primarily to the sheer quantities. Manker Harris, President, Association of Records Managers and Administrators, states that the nation produces "seven trillion words a day." In addition, "570 billion documents" are stored for long-term retention with another "30 billion more" added each year (1992:40).

Recent technological advances have not eased management's task. In many ways the art of automation has made the burden even greater by creating even more volumes of data and information to be managed. As the

volumes increase, so do the requirements for additional resources needed in the management process, as well as the costs associated with those resources. Herein lies one of the major reasons for the development of the IRM concept (Johnson, 1992:6).

Legal Basis for IRM. Unlike the public sector, the development of information management within the government has its basis in legislative guidance and public law. Information resource management was first identified in 1977 in the final report of the Commission on Federal Paperwork. "Mismanagement of information resources" was named as "the main cause for the paperwork burden" (Johnson, 1992:7). This report further recognized information as a "valuable national resource" (Johnson, 1992:7) which required efficient and effective management techniques. During the 1980s, several governmental acts and circulars were created which established guidelines and designated responsibilities for the management of this new resource.

Paperwork Reduction Act of 1980. The Paperwork Reduction Act (PRA) of 1980 further supported this idea by "formally establishing the concept of IRM" (Johnson, 1992:7). Agencies were now held responsible for the manner in which they managed these resources, as well as compliance with directives and guidelines outlined by the director of the Office of Management and Budget (OMB). Agencies were also required to appoint a "senior official" to ensure that responsibilities as outlined by the Act were being followed (Johnson, 1992:7).

The intent of this act was two-fold. First, it mandated the reduction of paperwork, and second, it forced the reduction of cost invested in the handling of information. The goals of the PRA were "to ensure that the information the

government collects is necessary, to achieve consistency in the management of information, and to use automated data processing (ADP) equipment and telecommunications technologies in the most effective and efficient manner" (Johnson, 1992:7).

Circular A-130. The Office of Management and Budget (OMB) issued Circular A-130, "Management of Federal Information Resources," in December 1985. This document established the framework for policy on managing federal information resources. It stressed that organizations must plan and budget for the acquisition and operation of information technology requirements (Johnson, 1992:7).

Paperwork Reauthorization Act of 1986. Additional requirements for IRM were outlined in the Paperwork Reauthorization Act of 1986. Planning for technological needs was again stressed as agencies were required to "annually develop and revise five-year plans" for their acquisition. In addition, agencies were tasked to "maintain a comprehensive set of IRM policies" (Johnson, 1992:7).

Because of these many regulatory taskings, it became necessary to combine and consolidate IRM and information requirements based on similar missions, goals, and objectives of specific agencies. The United States Air Force is one such agency. The historical review of the development of information resource management continues with a look at the Air Force's program.

IRM Within the Air Force

Once again, regulatory guidance was developed which outlined the functions and responsibilities of key personnel and activities within the Air Force. These are primarily in the form of Secretary of the Air Force Orders which further refine Air Force policies for managing information. These

orders are based on requirements as outlined in Department of Defense directives.

SAF Order 110.1. Secretary of the Air Force Order 110.1, "Authorities and Duties of the Administrative Assistant to the Secretary of the Air Force", dated 19 November 1987, states that the Administrative Assistant:

Is responsible for the information management function, including the policy that governs planning, programming, budgeting, training, evaluating, directing, promoting and managing of information in any form (written or electronic) throughout its life cycle (creation, collection, reproduction, distribution, retention and disposition) used to conduct the general business of the Air Force in an efficient way. The information management function specifically excludes information related to intelligence and command and control systems. The information management function further excludes the acquisition management of automatic data processing and telecommunications equipment. (SAF Order 110.1, 1987)

It is important to note the two exclusions within the above responsibilities' statement. These exclusions maintain the role of information management as a support function with an emphasis on managing the information itself rather than the equipment used to do so. As the historical review continues, the delegation of IRM responsibilities to a number of functions becomes apparent. Because of this order, the Air Force administration function became officially aligned under the Administrative Assistant to the Secretary and no longer falls under the Chief of Staff, United States Air Force.

SAF Order 100.1. Further guidance for the Air Force IRM program is given in April of 1988. Secretary of the Air Force Order 100.1 outlines the functions of the Secretary, Under Secretary and the Assistant Secretaries of the Air Force. It is here that the Assistant Secretary of the Air Force (Acquisition) is given responsibility relative to the following programs:

Command, control, communications, and computer systems, to include delegated source selection authority for Information systems resources, as defined in P.L. Law 97-86.

Air Force Information Resource Management Program in accordance with Public Law 96-511, the Paperwork Reduction Act, and DoD Directive 7740.1. Work in concert with the Administrative Assistant to the Secretary of the Air Force who is responsible for the functions associated with the collection, creation, use and dissemination of information. (SAF Order 100.1, 1988)

Note that the areas excluded from the responsibility of the Administrative Assistant are now assigned to the Assistant Secretary of the Air Force (Acquisition).

SAF Order 560.1. Finally, in September of 1988, Secretary of the Air Force Order 560.1 specifically outlines the Air Force Information Resources Management Program. This order officially appoints the Assistant Secretary of the Air Force (Acquisition) (SAF/AQ) as the Senior Air Force IRM Official with the responsibility for overall planning, acquisition, operation and management policies for the Air Force IRM Program. The IRM program includes:

Information resources technology and resources management activities relating to any service or equipment acquired or provided under section 111 of the Federal Property and Administrative Services Act of 1949, as amended (40 U.S.C. 759), including information processing and transmission equipment, software, systems, operating facilities, supplies, and related services, and their operation, standardization, maintenance and repair.

Information Management (IM), including information collection, paperwork reduction, statistical activities, records, forms and publications management, privacy and security of records, data standards, and sharing and dissemination of information. IM covers both information within the DoD and that provided to and received from government agencies or received from the public. (SAF Order 560.1, 1988)

Again, it is important to note that there are several exclusions from the program. SAF Order 560.1 (1988) states:

it does not apply to any ADP or telecommunications system or equipment, the function, operation or use of which:

- a. Involves intelligence activities;
- b. Involves cryptologic activities related to national security;
- c. Involves the command and control of military forces;
- d. Involves equipment which is an integral part of a weapon system; or
- e. Is critical to the direct fulfillment of military or intelligence missions. (SAF 560.1, 1988)

Shortly thereafter, Air Force "Administrators" became known as Information Managers, and the old Director of Administration (DA) changed to Information Management (IM). The bible of the IM community was developed as Air Force Regulation 4-1, "Functions and Responsibilities of Information Management (IM) Activities."

IRM and the Corporate Initiative

Because of the emphasis on the management of information as a resource, the Department of Defense, more recently, addressed the need for improving its actual management process. Out of the Defense Management Review process in 1989, the concept of Corporate Information Management (CIM) was born. This concept focused attention on reorganizing government resources, reevaluating business processes, and reconsidering the use of technology in order to better provide commanders with the tools and resources necessary to meet mission requirements. The development of DoD Directive 8000.1 outlines the program for developing and managing information DoD wide. This includes development of an infrastructure to promote standardization within all defense department agencies (Corbin, 1992:36-39; DMRD 918, 1992).

Technology Initiatives within IM

As technology advanced during the 1980s, plans to institute some of these new ideas were developed and some implemented. Four automated systems

were developed to enhance functions and ease taskings within the Information Management career field. These included the Records Information Management System (RIMS), Reprographics Automated Management System (RAMS), Publishing Distribution Office System (PDOS), and, the new offshoot of RIMS, a system to manage the Freedom of Information Act (FOIA). With the implementation of these systems came the requirement for users to be "computer comfortable." Several problems were raised during the initial implementation: these included insufficient training and the lack of local experts for troubleshooting system problems.

Office automation technologies expedited the creation of documents using computers. Users must now be familiar with a number of applications other than simple word processing, including operating systems, spreadsheets, database, graphics, desk management, electronic mail and file transfer capabilities, and desktop publishing. Although many computers are found in office settings, most are not being fully utilized. Past studies have shown that in most cases individuals have found it necessary to "self teach" or attend classes outside of the Air force environment either due to inadequate funding or non-availability of local on-base courses (TIG Report, PN 90-623, 1991:10). This experience with applications is especially critical for the enlisted force since they have historically been defined as the program doers, or the true system users.

System technology has also been used in other initiatives to improve the way information is managed. These include the Information Management-Network (IM-NET) program which would electronically disseminate publications and forms to users in the field, electronic publishing systems, and CD-ROM technology which is presently being developed in order to facilitate

dissemination of new policy directives to commanders in the field. Again, in order to ensure that system technology is used successfully, Information Management personnel must be knowledgeable to participate in the design, development, implementation, and evaluation of programs such as these.

With the development of Information Resource Management, other aspects such as information engineering, business process improvement, and data administration also have become critical denominators when an organization pursues the effective and efficient management of its information resources.

IRM--A Changing Focus from the Senior IM Perspective

The newly developed IRM program brought with it a change in focus. No longer could "administration" be considered a soft art form; information management was now becoming a critical science (Layman, 1992).

The IM name change created by SAF Order 560.1 "recognizes the IM role in promoting and managing this valuable resource [information] and better defines the scope of the IM business..." (Joubert, 1989:2). The change was supported by the current Air Force Director of Information Management and Administration, Colonel William O. Nations, when he said, "I believe this change is a good one. It points out a key fact--information is a valuable resource. We need to manage it properly to ensure the right information is available to the right people at the right time" (Joubert, 1989:2).

Although the business of information management hadn't changed significantly, the way in which this business was performed had. Automation was considered a viable tool in managing information and employees were encouraged to take advantage of newly developing office automation systems. Unfortunately, few were eager to get involved. Colonel Nations addressed this

situation in the October 1988 edition of AFRP 4-1, Administrator. His "prescription" involved the following three steps: "(1) know what it is you're supposed to be doing, (2) demand training, and (3) take the training back to the office, and apply it" (Nations, 1988:8).

Need for Qualified Personnel. Since 1988, other leaders within the IM environment have encouraged personnel to seek expertise in new technological advances which can be of benefit to the community. In January 1990, Colonel Edward A. Pardini, present Director of Information Management (Air Force), strongly encouraged officer, enlisted, and civilian employees alike to enroll in "information resource management, systems management, computer technology, or data management courses" (Pardini, 1990:8). He continued by saying, "Wake up folks...managing information is our business. We can't manage information in today's environment using yesterday's tools" (1990:8). A year later, Colonel Pardini once again discussed the IM's "tools of the trade," and emphasized that it is critical to learn more about these tools so that information can be better managed (Pardini, 1991:12).

A Changing Role. Not only are the "tools of the trade" changing, but also the roles information managers hold. Historically, that role has been one of a "sheriff" telling information users what they cannot do. However, the present and future role is becoming that of a consultant who assists the users in defining their information needs and finding efficient systems to manage their information resources (Layman, 1992).

Mr. Les Layman, former Deputy Director of Information Management, USAF Materiel Command, states the time is "ripe for improvement" within the IM environment. He continues to emphasize the importance of reevaluating our processes and the way we do business by questioning the necessity for

maintaining thousands of hard-copy forms for collecting redundant data or using out-dated business practices just because that's the way it's always been done (Layman, 1992). As information managers become more involved as consultants, the needs of the customers are placed as the priority.

Determination of Future Roles and Training Needs: Prior Research

Although it is quite evident by the preceding discussion that the environment for managing information within the Air Force is changing drastically, research that forecasts the Information Manager's future roles and required training needs has been limited mainly to commissioned officers. Little attention has been paid to the on-going needs of the enlisted force. Most of the research which has been done was completed by AFIT students pursuing Master's degrees in Information Resource Management. The following section outlines some of the high points of this research.

In 1988, Captain Cheryl Coleman conducted a survey to ascertain the perceived computer literacy and training needs of Air Force administration officers. Out of 383 respondents, only 51 percent felt "computer literate" and over 85 percent believed that more computer training would improve their efficiency on the job (Coleman, 1988:98-102). In response to questions regarding a "preferred method of learning", the vast majority of respondents concurred that a group environment was preferred over learning alone, and that the concept of "learning by doing" seemed to increase the degree to which information was retained (Coleman, 1988:71). It should be noted that this study only provided a snapshot of the knowledge level of administration officers and did not attempt to forecast future needs. The focus of this research was on determining basic "computer literacy" with the emphasis on simple office automation knowledge and skills rather than the more complex

issues of Information Resource Management and the technology needed to support it.

A follow-on to Coleman's research was a similar survey conducted by First Lieutenant Howard Bass which addressed the same questions to the enlisted population. Once again, although at least 92 percent of the respondents used computers in their job, only 64.3 percent felt they were "computer literate" (Bass, 1990:41). The enlisted corps also voiced their preference in a group learning environment, with 94 percent concurring with the method of "learning by doing" (Bass, 1990:71). In addition, Bass notes two areas of concern which were addressed in open comments from the survey. These were the "lack of computer training and the absence of standardization with regards to computer hardware and software" (Bass, 1990:71).

Yet another attempt at forecasting Air Force IM needs was completed with the 1990 study by Captain Richard McGhee in which he conducted telephone interviews with graduates of the Air Force Institute of Technology's Information Resource Management (IRM) program. McGhee's research was much more inclusive in nature, covering thirty-seven topics in the following areas: Computer Operating Systems, Standardized IM Systems, Data Communications, IRM, IM Career Field, Office Hardware, and Office Software (McGhee, 1990:59-62). Unfortunately, McGhee uses this small, highly educated sample to determine the needs for the entire Information Management population to include the enlisted force. At no time were any enlisted members asked for their input or perceptions on future needs. In addition, he erroneously describes the enlisted IM force by stating that their specialty codes are designated as 702X0 for "those serving in executive support

capacities" and 703X0 for "those assigned to functional IM positions" (McGhee, 1990:46). This is not the case. Individuals with the designator of 703X0 are Reprographics Specialists. All enlisted Information Managers, no matter whether filling executive support positions or functional positions, carry the same specialty code—that of 702X0. In his final comments, McGhee states that "if the graduates' perceptions of 1995 come to fruition, the IM mission and physical office structure will be profoundly different, particularly from the enlisted member's perspective" (McGhee, 1990:102). This comment is made based on his assumption that the graduates are considered experts and can determine the needs of the entire career field population. McGhee's conclusions, however, do reiterate the lack of knowledge in these areas and the need for additional training in order to provide qualified personnel to manage and perform IM functions in the future.

Captain Loy Cook looked at the impact office automation systems, namely the Records Information Management System (RIMS) and Reprographics Automated Management System (RAMS), had on Air Force middle managers and clerical workers. Cook's research results noted that these systems introduced "a significant change into the work environment of information management personnel" (Cook, 1990:100). Interviewees voiced a heightened level of job performance expectation in the following areas once the systems were in place: "responsibilities, demands placed on them, effort required of them, their job activities, job knowledge, expertise, and established work routines" (Cook, 1990:100). Once again, it is evident that with this changing environment comes the requirement for appropriate education and training which prepares personnel to succeed in this new setting.

Changing Role of the Enlisted Force within IM: External Factors

Other external environmental factors affect the on-going role and responsibilities of Air Force Information Managers. The greatest of these relates to the downsizing of the force and the reduction of the officer-to-enlisted ratio to meet funding limitations. In 1991, the target ratio within the Air Force was set at 1:4.29 in order to meet levels as directed by Congress (Pardini, 1991; Rutherford, 1991). With this decreasing ratio, more and more enlisted personnel are being forced into managerial positions requiring them to write policy and make decisions on how information is to be managed efficiently and effectively. This changing utilization was first seen in 1988 within USAFE when nine officer positions as base Information Managers were downgraded to senior enlisted positions; without USAFE total officer-to-enlisted ratio stood at 1:8.51 in February of 1991. This now required that the enlisted personnel be just as knowledgeable on Information Resource Management issues as the officers. In the past several years, other commands have increased the use of civilian employees in similar positions. Table 2-1 shows the break out of personnel requirements by command for base-level IM positions as provided by Major D'Eufemia, point of contact for IM officer programs at Air Staff, in April 1993. This necessitates the development of training opportunities for both enlisted and civilian alike, not just officers. As of January 1993, there were no Air Force-sponsored programs for teaching Information Resource Management concepts to this population, except for a quick overview in the Base IM Course offered at Keesler AFB, Mississippi.

Table 2-1.

Outline of MSI Positions by MAJCOM.

(Shows break-out by officer, enlisted, and civilian, as well as the number of 1AUY (advanced academic degree) positions)

Command	Total MSI	Officer	1AUY	Enlisted	Civilian
AFIC	24	1	1	21	2
AFMC	12	4	2	0	8
AFSOC	1	1	1	0	0
USAFE	24	14	7	9	1
AMC	15	13	7	0	2
ACC	33	33	9	0	0
SPACECOM	2	2	1	1	2
ATC	13	12	1	1	0
AFRES	0				

Training and Utilization: A Strategic Planning Emphasis

The training and utilization of Information Managers has been an on-going problem within the career field for the past decade. The Inspector General of the Air Force reports and special project reports have noted difficulties in the way personnel are trained and the way Information Management personnel are managed and utilized (TIG Report, PN 89-603; TIG Report, PN 90-623; Special Project Administration 70XX & 702X0, 1989). The rapid development of information technology and the ever-changing environment has exacerbated this problem.

During the past several months, however, the community has tackled the problem through the use of strategic planning methods. The revised IM plan, IM-21: Information Management Strategic Planning for the Twenty-first Century, addresses the many changes which have affected the career field over the past several years and will continue to reshape roles and responsibilities in the future. It focuses much attention on the subject of training and personnel utilization. Goal 3 of the plan, "Developing Information Managers for Changing Environments," outlines steps to ensure a highly educated work force, qualified to meet the challenging needs and requirements of the future (IM-21, 1993:44-53). Specific tasks outline the development of a career training plan which is applicable to each member of the IM community, whether they are an officer, enlisted, or civilian. Other tasks map out a plan to provide more educational opportunities for the Information Manager, and then to ensure that personnel at all levels are aware that these opportunities do exist and then take full advantage of them. In addition, the process is underway to create an "enlisted IRM special experience identifier (SEI)" which would recognize systems expertise among the enlisted force.

With the revision of the IM strategic plan, the groundwork has initially been laid to remedy the problems which have haunted the career field over the past decade. Now it is critical to follow through on the taskings outlined in the plan and continually review and update career field goals in order to support the IM purpose: "to ensure the right information is available to support the Air Force Mission" (IM-21, 1993:6).

Conclusion

The IRM program as it was developed within the Federal government mandates that those agencies responsible for managing information do it efficiently and effectively. With the advent of Information Resource Management, it is very clear that the business procedures of yesterday will not satisfy the requirements of today and tomorrow. As the information management processes change, so does the role and responsibility of the managers involved in this critical function. Because these changes are inevitable, it is strategically important that this new role be projected to ensure that a qualified force is in place to handle the new mission requirements.

III. Methodology

Introduction

This chapter defines the method of research used to answer the investigative questions presented in Chapter 1. Our research compares present practices to projected future concepts within the IM career field. We are reporting what the enlisted information managers view as their present and future professions and their level of familiarity on IRM-related issues.

A three-phase information gathering methodology was used. First, we contacted a select group of IM officers, the "expert group," by electronic mail to obtain top-level input. Second, we conducted interviews of senior ranking enlisted information managers during the Utilization and Training Workshop (U&TW). Finally, we distributed a mail survey to information managers in the field. The survey provided a means to distinguish between the attitudes of the leadership and the workers, and to provide a baseline of enlisted personnel awareness of future IM concepts.

Reliability and validity are discussed in relation to this research. The methods of statistical analysis, as well as the population and sample upon which the analysis was conducted, are explained in detail to prepare the reader for the data reported in Chapter 4.

Purpose

The focus of roles and responsibilities within IM is changing rapidly; however, the implications of such changes have not been effectively communicated to the enlisted force. To date, in fact, no systematic study has been conducted to determine enlisted managers' awareness of changing roles and responsibilities. Therefore, this statistically-based study provides a

preliminary view of the level of familiarity enlisted information managers have of changing roles, responsibilities, and initiatives within the IM field.

Investigative Questions

The following questions address the future role of the IM enlisted force and member awareness of IM initiatives:

- (1) Which roles and responsibilities of enlisted information managers are changing?
- (2) Has automation contributed to these changes?
- (3) Are enlisted information managers in the field aware of innovative programs and concepts which senior leadership is projecting to be included as future responsibilities of the IM career field?
- (4) What are the preferred methods of training on these future initiatives?

Description of Research Methodology

Information for this thesis was obtained from three sources: expert group interviews, the Utilization and Training Workshop (U&TW), and mail surveys.

Expert Group Interviews. The first phase of research involved all MAJCOM information managers, as well as AFIT IRM graduates. This group was selected as our expert group since these individuals were either (1) in a leadership position, involved in projecting future roles and responsibilities, as well as establishing policy and guidance; or (2) in a designated position working IRM-related issues. A message was transmitted via electronic mail requesting their support and soliciting their responses to a set of five questions; these questions were derived from the following theses: Coleman,

1988; Bass, 1990; McGhee, 1990; and Block, 1991. The questions addressed were:

1. What is the present role of enlisted information managers? What are the key duties and responsibilities being performed? Which of these are most important?
2. Has automated technology impacted the way information is managed? In what ways has it impacted or not impacted? What has been the primary impact?
3. Will automated technology have a future impact on IM? If yes, where will the primary impact be? How can enlisted IM personnel best be prepared?
4. Which present duties and responsibilities will disappear in five years? Which duties will expand?
5. Does present training provide the knowledge and skills necessary to meet forecasted roles and responsibilities?

A synopsis of comments is presented in Chapter 4, with a complete copy of all responses located at Appendix A.

U&TW Conference. The second phase was conducted at the Enlisted 702X0 Utilization and Training Workshop (U&TW), held at Keesler Air Force Base, Mississippi, in January 1993. During this time, the senior enlisted managers within the 702X0 career field were asked to respond to the same questions presented to the expert group. Written responses of the senior managers were compiled and then distributed to the attendees prior to a round table discussion later in the week. A synopsis of key points addressed is presented in Chapter 4, with a complete copy of all written comments, as well as proceedings from the roundtable, found at Appendices B and C, respectively.

Survey of Field Information Managers. Following the U&TW, we consolidated the results of the round table discussion and determined the most appropriate questions for the third phase of our research methodology, the mail survey. The sample for this population was randomly selected using an Atlas Statistical Summary Inquiry, accessing Air Force personnel worldwide. This tool, and the actual selection of respondents are discussed shortly. The questions in the survey represented the combined ideas and opinions of senior-level managers and the authors of this thesis.

Survey Instrument Design and Justification

We conducted a mail survey ostensibly to contact respondents who might otherwise be inaccessible (Emory, 1991:333). The population concerned included all Air Force enlisted personnel holding the Primary Air Force Specialty Code (AFSC) of 702X0 and filling positions designated with a Duty AFSC of 702X0. The survey questions addressed individuals' degree of familiarity on IRM-related issues and how this knowledge was acquired. In addition, the survey asked respondents to evaluate statements designated as current or future, as to how they relate to the functions within their organizations. Individuals were also asked to recommend the most appropriate mode of training certain concepts and tools required by future programs and initiatives. Based on the responses received, statistical analysis was conducted which allowed inferences to be made on the population concerned. A copy of the survey used is found at Appendix D.

Survey Description. As references for this survey, we used Air Force Regulation 39-1, IM-21 (the IM Strategic Plan), and other documents which discuss the various roles and responsibilities of IM enlisted personnel. In addition, data gathered during the first two phases of the methodology were

integrated in each section of the survey: current, future, and training. The following describes the considerations that were involved in devising the survey.

Content/Format. By setting up the survey in table format, we allowed the respondents to provide answers for certain topic-related questions. Questions were asked concerning certain functional IM areas, such as Records Management, and were centered around three areas: (1) the present state of IM functions; (2) future IM concepts; and (3) the best training methods to move from present to future. Questions were presented in columns on the same page as the answers to ensure ease of use.

Justification. The questionnaire has several strengths. These strengths are: (1) Subjects may tend to be more open with their responses since there is not the embarrassment of open face-to-face contact; (2) Data is gathered from some subjects who would not be approachable for an in-person interview; (3) Cost per questionnaire is low; (4) Data analysis is easier. There are also some limitations or restrictions, however. These include: (1) Inability to ask probing questions, and (2) Potential for non-response (Emory, 1991:333).

Reliability and Validity

For a questionnaire to be used to properly infer on a population, it must be both reliable and valid.

Reliability. A measure is reliable to the degree that it supplies consistent results. No pre-tests for reliability were conducted on the survey instrument used in this thesis; however, the Cronbach Coefficient Alpha test was conducted on all survey items which used an ordinal response scale. This test identified any survey items which decreased the overall reliability of the instrument. The degree of reliability increases as the probability approaches

1.00. Results of this test showed there were no unreliable survey items; thus data from all responses was used in the final analysis. The basis of reliability was also assessed according to equivalence, as presented by Emory (Emory, 1991:186-7). According to equivalence, also known as parallel forms, the way in which groups respond to questions can be used to determine reliability.

Validity. Validity is usually classified into three generally accepted forms: content, criterion-related, and construct (Standards, 1974:26). Only content and construct validity applied in our study.

Content Validity. Emory defines content validity as the extent to which a survey instrument provides adequate coverage of the topic under study (Emory, 1991:180). The first method of determining content validity involved determining validity through a detailed and adequate definition and coverage of the topic.

Construct Validity. Construct validity differs from content validity. Instead of trying to determine if the right question is being asked, we are deciding if the information we are requesting is appropriate for our needs. In order to make inferences on the population of enlisted information managers, we needed to make certain that the questions we asked would provide us with results for appropriately answering the investigative questions.

Population

The population of interest for this thesis consisted of all enlisted information management personnel, who carry the 702X0 Primary AFSC, and have over one year on active duty. The Air Staff Senior IM Enlisted Advisor reported that there are 12,000 CONUS enlisted personnel in the IM career field, and an additional 2,400 overseas personnel. The total population for statistical purposes was 14,400 personnel.

Sample

We distributed the questionnaire to 460 enlisted IM personnel throughout the continental United States (CONUS). For the survey to be significant, 266 responses were required. Only CONUS locations provided data for the survey. The degree of reliability and significance of the data was based on the percentage of responses. Stratification techniques were used to determine sample grouping. Emory states that stratification is "almost always more efficient statistically than simple random sampling and at worst equal to it" (Emory, 1991:266). It is also useful when researchers want to study the characteristics of certain population subgroups. The sample selected was stratified by:

1. United States Air Force
2. Enlisted personnel
3. Duty/Primary Air Force Specialty Code 702X0
4. Skill level

Overseas personnel were not surveyed, but were considered part of the population. The following formula was used to determine the sample size; it needed to ensure, with 95% confidence/reliability, that the sample drawn was representative of the population being researched.

$$n = \frac{N (z)^2 \times p (1-p)}{(N-1) (d)^2 + (z)^2 \times p(1-p)}$$

where: n = sample size
 p = maximum sample size factor (.50)
 d = desired tolerance (.05)
 z = factor of assurance (1.645)

(Attitude/Opinions Survey, 1974:11-13).

Applying this formula to the population size of 14,400, the sample size required was 266. Using Bass's survey as a rough measure of response rate, we issued 460 copies to ensure we had a reasonable chance of reaching our target of 266 copies returned.

The participants in the survey, as previously stated, were selected from an on-line database available to AFIT students. To ensure randomness, participants were selected based on the final digit in their social security number. The Privacy Act prevents the disclosure of social security numbers within the confines of this thesis.

Statistical Analysis

Statistical analysis for the data received from the mail surveys was accomplished using Statistical Analysis Software (SAS). The procedures conducted were simple descriptive statistics, frequency distributions, analysis of variance (ANOVA), and Chi-Square analysis.

Descriptive Statistics. The descriptive statistics were used for categorizing data sets, primarily of the nominal type. Nominal data is described by Emory as a determination of equality. The characteristics of a

nominal scale are: no order, no distance and no origin. The demographic questions in Part 1 of the survey allow for description of respondents, but prevent quantitative measurement based within the questions themselves (Emory, 1991:172). We used scale measurements for current and future questions that were ordinal rather than nominal (ordinal meaning that the data can be ordered). The scales used to provide response to topic questions were:

Current and future rating scales.

- 1 -- Completely unfamiliar with this concept.
- 2 -- Concept familiar, but not enacted within my organization.
- 3 -- Concept familiar; organization recognizes importance, but not yet enacted.
- 4 -- Concept familiar; organizational steps in direction have been taken.
- 5 -- Concept is completely integrated; this is the way we do things.

The training scale, however, was nominal. It did not provide any method of ranking and was simply a method of reporting data.

Training scale.

- A -- Completely unfamiliar with concept
- B -- Technical Training
- C -- On-the-Job Training/CDCs
- D -- Off Duty Education (Associate/Bachelor/Master Program)
- E -- Computer Aided Instruction (independent study)
- F -- Official Education (Air Force, DISA, DoD, etc.)

The descriptive statistics in this thesis described demographic data: rank, skill level, originating MAJCOM, organizational level, and job type. Analysis of demographic data was accomplished by frequency distributions and Chi-Square analysis.

Measures of Central Tendency (Frequency Distributions). In SAS, frequency distributions are used to determine three measures of central tendency (also called measures of normality): mean, mode, and median (McClave and Benson, 1988:76). The measure most necessary for this research was the mode.

Mode is very often a measure of nominal data. It is used to identify the most frequently selected measurement, allowing also for the analysis of data concentration. For example, in Part 3 of the survey instrument, respondents provide ratings on a defined scale of 1 to 5. The "PROC FREQ" procedure allows us to compare the demographic data obtained in Part 1 to these scaled answers. By comparing rank to a particular question, we determined how many Airman or Technical Sergeants responded with a "1, 2, 3, 4 or 5." Once all the data is available, statistical analysis can numerically and graphically provide information on significant differences between answers provided by each group. "The mode was most useful because it provided the most information relative to the concentration of answers" (McGhee, 1990:71-72).

Analysis of Variance (ANOVA). An ANOVA was also performed on survey items which used an ordinal response scale; these items included vocabulary terms, as well as "current" and "future" concepts. According to Schlotzhauer and Little, "an ANOVA involves deciding if the variation in means due to differences between groups is larger than would be expected by chance" (1987:221). In our analysis, significant differences are noted when $\alpha = .05$. Analysis of variance was conducted by rank, skill level, organization level, and type of position.

Chi-Square. Chi-Square is a non-parametric test used primarily with nominal data. With Chi-Square, one tests for significant differences between

the observed distribution of data among categories and the expected distribution based upon the null hypothesis (Emory, 1991:536). In this study, the null hypothesis included all values with $\alpha > .05$. In order to reject the null hypothesis, and thereby accept that there is significant difference between values, the value of α must be less than .05. Chi-Square also allows for collapsing of variables in order to obtain more valid results. This process was used extensively in our statistical analysis when responses were compared by rank. In this case, we wanted to determine whether the responses were made independent from the following rank categories: Airmen, Non-commissioned Officers, and Senior Non-commissioned Officers.

Although the Chi-Square test is frequently used to determine independence, it does present some problems. When expected cell frequencies are less than five, or when there are cells with frequencies of zero, the resulting analysis may not be valid. If this occurs, the SAS program presents the user with a warning message informing them of this problem (Schlotzhauer and Little, 1987:371). SAS programming specialists recommend using the Fisher's Exact Test in this situation. However, this test requires a great amount of processing time and is memory intensive. Because of this, we were only successful in running the Fisher's Exact Test on data from the vocabulary familiarity block--Part II of our survey. Other analysis results reported in Chapter 4 were obtained using the Chi-Square procedure and, therefore, may not be valid. This is due to the presence of "empty cells" and expected cell frequencies of less than five.

Proposed Areas of Discussion

Initially, the respondents were requested to provide demographic data for rank, skill level, major command, organizational level, and job type.

A vocabulary familiarity block was also presented to determine the degree of familiarity that respondents have with the terminology associated with IM innovation. Finally, they were asked how they acquired this familiarity. The following terms appeared in the vocabulary familiarity block:

- a. Information Resource Management (IRM)
- b. Corporate Information Management (CIM)
- c. Business Process Re-engineering
- d. Information Resource Center
- e. IM Strategic Plan
- f. Information Needs ID and Analysis
- g. Information Flow
- h. Information Engineering
- i. Data Administration
- j. Document Imaging
- k. Electronic Data Interchange (EDI)
- l. DMRD 918: CIM
- m. Defense Business Operations Fund (DBOF)
- n. ICAM Definition Language (IDEF)

The following functional areas of responsibility, developed first from Block's thesis (Block, 1991:28-30), and then compared against AFR 39-1, were the topic areas covered in the survey. The list included:

- a. Forms Management
- b. Publications Management
- c. Records Management
- d. Automation Requirements

- e. Administrative Orders
- f. Combat Readiness and Support
- g. Information Processing (Commander Support)
- h. Administrative Communications
- i. Plans and Programs
- j. Communications Security

Summary

The data received from the expert group and U&TW interviews, combined with the mail survey, are the basis for the statistical analyses reported in Chapter 4. The survey was tailored to the specific needs of the authors, and was presented to a significant sample of the population. By providing information, such as degree of familiarity, the respondents made qualitative evaluations not only of particular topic areas under consideration, but also of terminology that sets the basis for the future.

IV. Analysis and Results

This chapter reports the actual results of the three-phase methodology as described in Chapter 3, as well as analyzes the data for trends and differences in attitudes, particularly among the following three major enlisted personnel categories: Airmen (AMN), Non-commissioned Officers (NCOs), and Senior Non-commissioned Officers (SNCOs). Under Air Force personnel policies, these three categories are defined as follows:

Airmen (AMN): Those enlisted personnel in the ranks of Airman, Airman First Class, and Senior Airman.

Non-commissioned Officers (NCOs): Those enlisted personnel in the ranks of Sergeant, Staff Sergeant, and Technical Sergeant.

Senior Non-commissioned Officers (SNCOs): Those enlisted personnel in the ranks of Master Sergeant, Senior Master Sergeant, and Chief Master Sergeant.

The authors organized research results according to the three methodology phases. We reported responses from the Expert Group first, reactions to the questions presented to the senior enlisted representatives attending the January 1993 Utilization and Training Workshop second, followed by data from the Needs Assessment Survey which was administered to enlisted Information Management personnel in the field.

Phase I: Responses from Expert Group.

The first phase of the research methodology involved solicited responses from an expert group on five questions pertinent to the present and future status of the Information Management career field. In total, only eight responses were received from this informal line of questioning; however, several key issues were voiced in these submissions that we deemed worthy of

reporting. The following paragraphs highlight these issues. A complete copy of submitted comments can be found in Appendix E. The actual questions addressed are repeated here for clarification.

Question #1: What is the present role of enlisted information managers? What are the key duties and responsibilities being performed? Which of these are most important? The consensus of respondents is that the present role of enlisted information managers is the typical administrative role of years past. Duties as outlined in AFR 39-1, such as management of records, publications and forms management and distribution, and the physical transfer of documents among organizations comprise the stereotypical list of responsibilities performed by information managers. Emphasis still remains on management of paper documents. One respondent characterized this present role as a reactive one--meeting the information needs of others. Specific responsibilities are dependent upon the type of position an individual is in, whether it be an executive, staff support billet, or a functional base-level IM activity. Furthermore, the prioritization of duties is made by the individual's supervisor, as well as the needs and expectations of the commander. One respondent specifically stated that the most critical of these traditional duties was that of "disseminating timely, accurate, relevant information," and secondly, the "standardization of information" via forms, records management, and the like.

Several respondents noted the need to change the mode by which many of these duties are performed, specifically through automation. One person took the enlisted role one step further by noting that although the primary focus at this time is on inputting data and producing results in a requested format, the role should include the efficient and effective flow of information throughout the organization.

Question #2: Has automated technology impacted the way information is managed? In what ways has it impacted or not impacted? If so, what has been the primary impact? The overwhelming reply was yes, automation has impacted the way information is managed, and most comments agree that the impact was primarily positive. Specific impacts noted were faster communications (time savings), increased convenience, increased ease of use and ability to complete activities (work requirements), increased efficiency through the use of databases (although if not organized correctly, data is redundant and not standardized), increased level of efficiency in analyzing data, increased accuracy, and increased availability--more people have direct access to the information they need, resulting in a decrease in the need for middle men. However, one respondent noted that the degree of impact was limited by organizational factors and by outmoded management/leadership paradigms within DoD and the Air Force.

One respondent commented on the many benefits of a newly installed local area network (LAN)--giving more users access to more and better tools. They noted a change in the "mind set" of the user which created heightened expectations for even more and better tools and capabilities. Respondents further noted that automation also decreases the need for many manual operations--providing capabilities and direct access to all users, as evidenced by the implementation of electronic mail.

A few negative aspects were presented--creation of confusion on the part of users due to the rapid changes occurring, and the creation of unnecessary expectations that all documents created must be perfect due to ease in making changes. These expectations actually cause an increase in overall workload. Other negative aspects include a decrease in face-to-face discussions which

may create socialization problems in the future. Up to now, automation also decreases the control over records and increases the number of files (documents) which are mismanaged according to legal guidelines.

In addition, one respondent disagreed that automated technology had impacted the way information is managed due to failure to accept information as a strategic resource. Many organizations still do not want to share information and data with outside functions and operations.

Question #3: Will automated technology have a future impact on IM? If yes, where will the primary impact be? How can enlisted IM personnel best be prepared? Most respondents agreed that automated technology would have a future impact on IM. The common feeling is that this future impact will focus on personnel cuts—as automation increases, fewer people are needed to do the job. The impact will also change the traditional manual IM processes, therefore making it critical that we learn to use technology to our advantage. One individual went so far as to forecast the "death" of the traditional IM community. Another respondent voiced an opinion that many of the changes would be caused by increasing computer networking. One individual also added that automation will have an impact only if IM is truly interested in working the issue. They felt that emphasis was needed on learning how to really manage information and how to improve upon process inefficiencies more than technical design work.

In order to be best prepared for these future impacts, everyone agreed that training was the critical issue. It needs to be continuous, add value "on the job", and focus on IRM-related subjects. In addition, one respondent also felt there was a need to re-address the level of requirements for getting into the career field, since present levels are quite low.

Question #4: Will any present duties and responsibilities disappear in five years? If so, which? Will any duties expand? If so, which? All respondents agreed that many, if not all, of the typical traditional duties of Information Management would go away, or would become another specialty's responsibility. Those areas with the greatest impact would be the Base Information Transfer System (BITS), Administrative Communications, Publications Management, and Records Management. Additionally, electronic data interchange and open systems architecture were noted as areas of responsibility that will expand, as well as an increasing need for system administrators to manage the growing number of automated systems and networks.

Question #5: Does present training provide the knowledge and skills necessary to meet forecasted roles and responsibilities? The response was overwhelmingly no. The average enlisted person is not sufficiently computer literate. All submissions voiced the need for additional training, and not just training on tasks. Emphasis was also placed on educating mid- and senior-level NCOs on IRM-related concepts--encouraging enlisted personnel to obtain two-, if not four-, year degrees. Additional recommendations focused on the technical training school at Keesler Air Force Base, and its need to stay on top of changing needs and requirements. One respondent emphasized the importance of developing individuals into "big-picture people"--those with a clear understanding of the overall organization and how to provide information solutions at every level.

Individual respondents also voiced the need to change the attitudes of the enlisted workforce as well as the attitude of senior leaders. With the emphasis on Information Resource Management, the Information Management career

field underwent not just a name change, but also a change in the way they do business--or should do business.

Phase II: Inputs from Senior Enlisted Members

The following section presents a synopsis of comments made in reply to questions addressed to senior enlisted Information Managers attending the Enlisted 702X0 Utilization and Training Workshop in January 1993. Input for this section was obtained in two ways: through written responses made to questions presented at the beginning of the workshop and through comments made during a roundtable discussion conducted at the end of the workshop. Although only six written responses were received, other participants were given the opportunity to contribute their opinions during the discussion. The comments are presented in this chapter according to the specific question to which they respond. A complete copy of comments received from the written replies as well as the roundtable discussion are found at Appendix B and C.

Question #1: What is the present role of the enlisted information manager? What are the key responsibilities being performed? Which of these are more important? Most comments discussed the traditional role of a 702X0 in performing duties centering around "administrative support;" however, several individuals noted the responsibility of managing the life cycle of information in any media and the systems required to do this. Some comments did focus on more current attitudes such as the responsibilities to assist customers in managing their organization's information, to provide real-time information to commanders, and to train other information managers in new technologies.

Other responses noted that the career field was transitioning from old traditional jobs to more system-oriented positions. For example, the traditional job focused on the role of an office manager in a manual environment, in

which duties were performed by hand with little help from automation. The typical "administrator" was willing and capable of doing whatever was necessary to keep the office running. Today's positions require familiarization, if not expertise, on numerous automated tools. The importance of one duty over another is difficult to determine since job situations and commander requirements frequency vary.

Question #2: Has automated technology impacted the way information is managed? In what ways has it impacted or not impacted? If so, what has been the primary impact? The overwhelming reply was yes--automated technology has impacted the way information is managed. However, this impact has been both positive and negative. Positive impacts include providing a better way of doing things, faster processing and retrieval time, and increased efficiency on the job. Other positive impacts include providing a systematic way of doing a job, allowing capabilities for more user creativity, and increasing the quality of the final product.

Negative impacts include the reduction of personnel and the creation of frustration among users due to rapid changes in procedure and technology that can require time to master. Other negative impacts include automation for its own sake, not necessarily for innovation. With automation comes the need to truly focus on the process and the resulting product. It is increasingly important to ask the question: Is the process really providing the customer with what they want in an efficient and effective way? The creation of too much information and a lack of guidelines for managing it in an electronic state is another negative impact noted by Senior NCOs, along with a decrease in "task discipline" due to the ease with which documents can now be edited.

One respondent also noted that the increased impact requires that 702s be trained in new technology. This individual's opinion was that the IM

community is not sufficiently training on new technology, which causes big problems for those individuals who have been in the field for awhile. Those individuals were trained on manual tools and have not, in many cases, been provided retraining on new tools.

Question #3: Will automated technology have a future impact on IM? If yes, where will the primary impact be? How can enlisted IM personnel best be prepared? Respondents agreed that new technology will continue to impact information management by improving the speed and flow of information. A functional area of primary impact will be publications management.

Future impacts will focus on products and skills. The media used in final products will change with a drastic reduction in the use of paper. New skills will assist in the efficient and effective management of information by aiding managers in organizing information better, determining information needs, controlling information flow, and defining the customers' information architecture. One individual stated that there is a need to focus on IM impacting automation, and not vice versa, and an emphasis on how automation can improve quality of life for the customer.

Everyone agreed that training is the critical need for preparing the enlisted force. Comments recommended acquiring this training through whatever means possible. Some respondents addressed the need for changing attitudes as well--becoming more accepting of new technology and developing a greater willingness to learn new techniques.

Questions #4: Will any present duties and responsibilities disappear within the next five years? If so, which? Will any duties expand? The opinions of respondents agreed that if responsibilities did not go away, they would at least change drastically in the way they are accomplished. The primary change was projected in the way information will be distributed--using either CD-ROM

technology or electronic networking versus paper. Other areas of projected change included publications, forms, postal, library, and administrative orders. Areas where duties will expand include the controlling of information, the defining of needs, and the organizing of information for better decision-making.

Question #5: Does present training provide the knowledge and skills necessary to meet forecasted roles and responsibilities? Once again, the overwhelming response was no. Training and education needs to focus not only on technology, but also on IM processes--knowing how to determine what the customer wants and how information flows. Several individuals voiced a concern about why the schoolhouse at Keesler AFB was not "in the loop" on changing programs. Others requested that AFIT IRM graduates take on more of a training focus--stressing the need to share their acquired knowledge with members in the field.

Other Comments and Issues. Several other issues and concerns were voiced during the roundtable discussion and were considered appropriate to include in these results. These concerns include:

- Lack of standardization; i.e., processes and systems, software used.
- Inequitable sharing of technologies across the commands. Some commands have technology and are pushing ahead; others don't and are getting further and further behind.
- Absence of a well-defined charter which outlines the future direction of the career field
- Absence of positive marketing techniques to sell the new role and capabilities of information managers to commanders Air Force wide.

- Lack of central identity for information managers because of the diversity of jobs and the lack of self respect among members.
- Need for greater sharing of information on changing programs and policies with senior enlisted personnel and involvement of this group in decision-making processes.
- Lack of focus when major commands step out in different directions; sends confusing signals to personnel in the field.

Phase III: Needs Assessment Survey

This section reports on the data obtained from the Needs Assessment Survey administered to a sample of the enlisted Information Management population. (See Chapter 3)

Participation and Response Rates. Out of the 460 surveys that were sent out, 153 were returned. All but two of the surveys were used in the final analysis. Those two were not incorporated into the final statistics because they had large incomplete sections. Other partial responses were received; however, after careful scrutiny we decided to include these responses because it was determined that most unanswered questions were due to a lack of knowledge or non-familiarity with the subject. Figure 4-1 shows the overall response rate by major command.

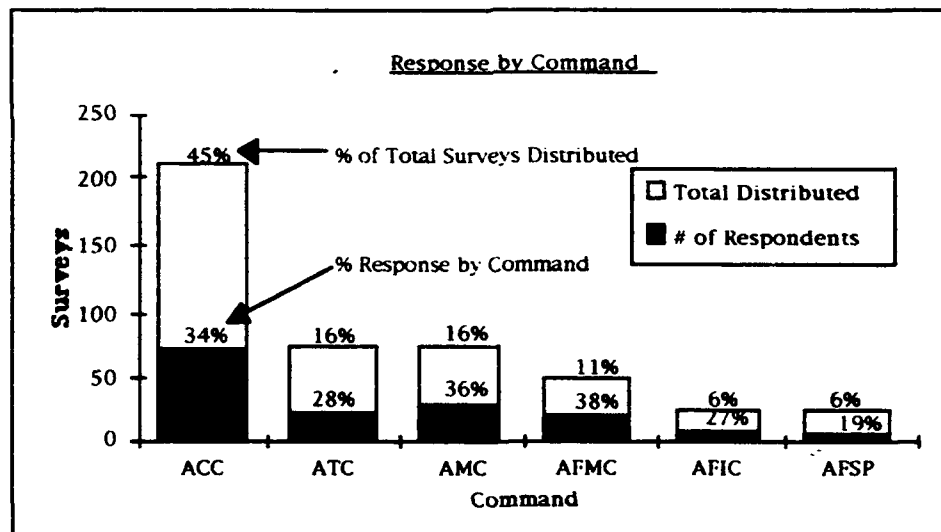


Figure 4-1. Respondents by Command

Demographics. Demographic questions on the survey asked for the rank, skill level, major command to which assigned, organizational level at which employed, job type, and opinions about present and future roles as information managers.

Rank. The category of respondents which provided the largest input was NCOs. The greatest number of respondents were Staff Sergeants with 43 replies for 28.7 percent of the overall returns. Figure 4-2 graphically shows the overall response rate by specific rank.

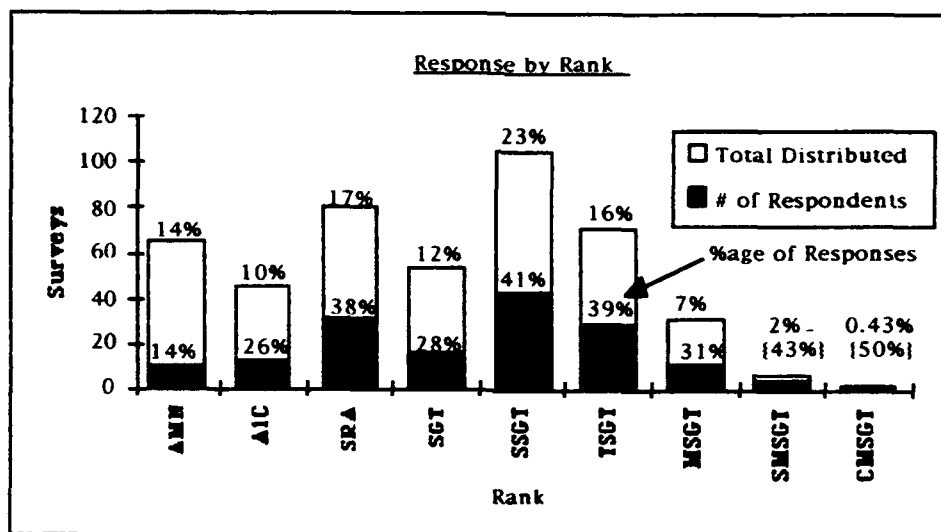


Figure 4-2. Respondents by Rank

Skill level. Surveys were mailed to individuals with skill levels of 3, 5, 7, 9, and 0. The greatest response was from 7-level personnel with 68 replies or 45.6 percent, and from 5-levels with 63 replies or 42.3 percent. Figure 4-3 graphically shows the overall response rate by skill level based on Primary Air Force Specialty Code.

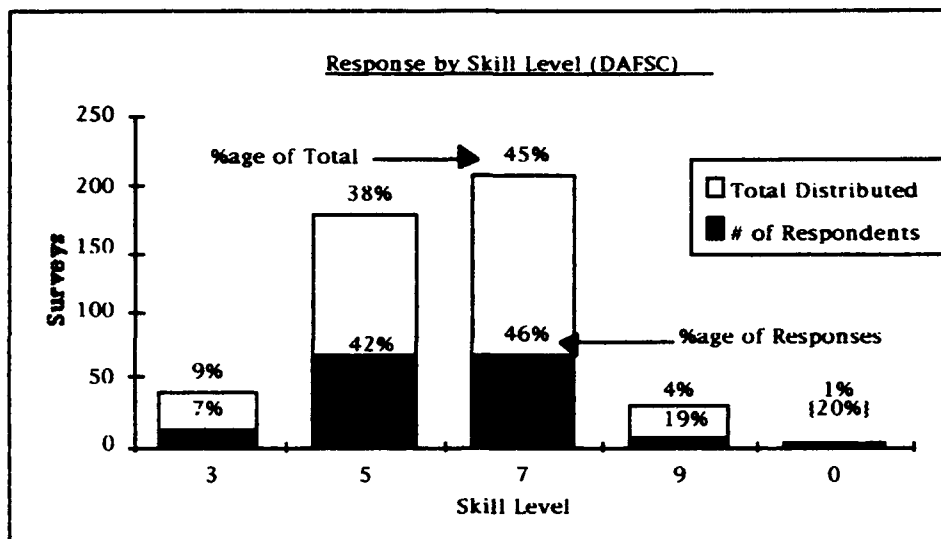


Figure 4-3. Respondents by Skill Level

Major Command. Surveys were mailed to individuals assigned to Air Combat Command, Air Training Command, Air Mobility Command, Air Force Materiel Command, Air Force Intelligence Command, and Air Force Space Command. The greatest response was from Air Combat Command with 67 replies for 45 percent of the total returns. See Figure 4-1 for overall response.

Organization Level. The greatest number of respondents were from unit-level positions totaling 70 for 47 percent, and 55 respondents from base-level/wing-level positions for 36.9 percent. Twelve individuals were from MAJCOM-level positions and another twelve from other positions, such as flights and geographically separated units (GSU), for 8.1 percent each of the overall response. Figure 4-4 graphically displays responses by organizational level.

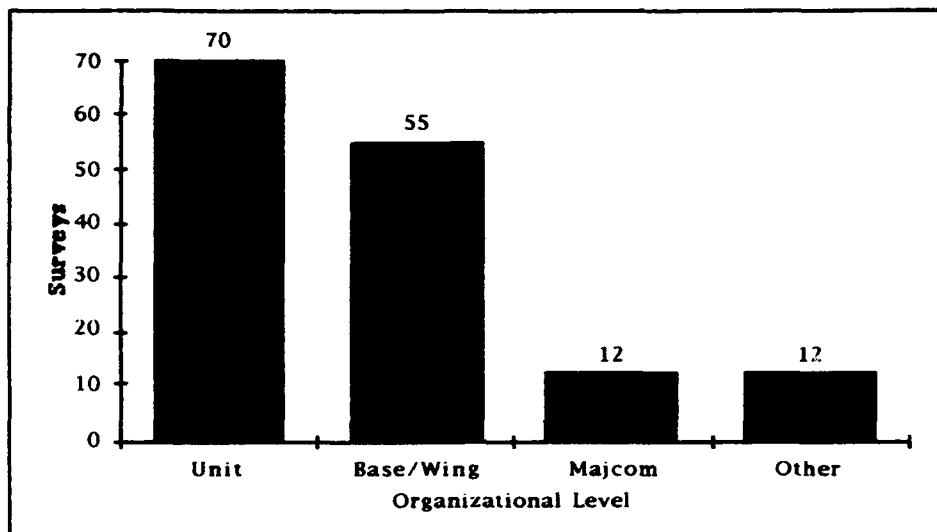


Figure 4-4. Responses by Organizational Level

Position Type. The greatest number of respondents was from positions defined as functional Information Management, with 70 replies for 48.3 percent, and 41 responses from individuals in executive support for 28.3 percent. Thirteen responses were from personnel filling IRM support positions for 9 percent of the overall response rate, with another 21 from people filling other positions, such as staff support and Administrative Assistant to the Commander, for 14.5 percent. Figure 4-5 displays responses for position type by rank.

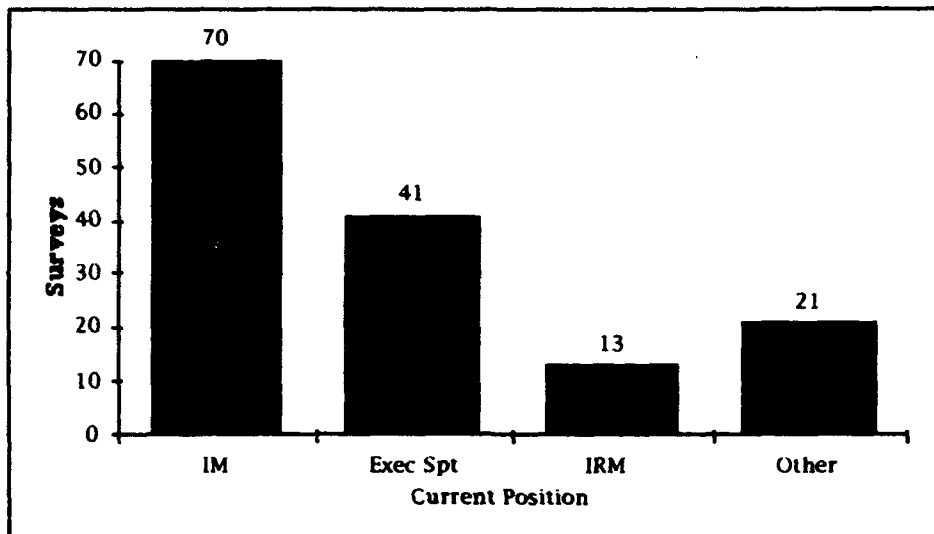


Figure 4-5. Responses by Position Type (by rank).

Present Role. When asked how individuals perceived their role as enlisted Information Managers in their present position, the majority selected the response, "clerk," with 56 responding accordingly for 37.1 percent of the overall response. Twenty-eight percent of respondents characterized themselves as managers, 15.9 percent as technical advisors, 7.8 percent as consultants, and 11.2 percent as other, such as secretaries and executive assistants. Figure 4-6 graphically represents this overall response by the role presently conducted by the respondent.

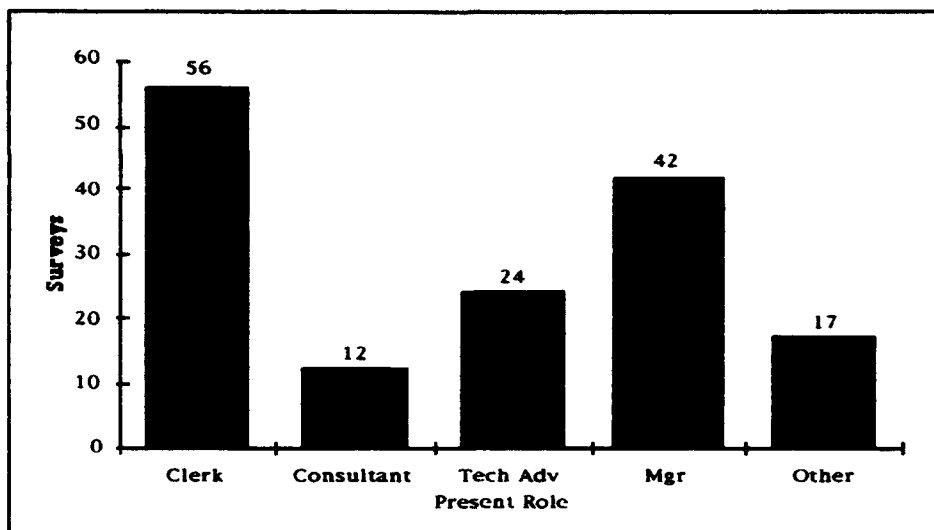


Figure 4-6. Response by Present Role

When comparing the results according to the three categories of respondents (Airman, NCOs, and SNCOs), a difference was noted particularly between how the SNCOs viewed their roles. This difference is significant according to the Chi-Square analysis which reported the probability at .018. In the case of Airmen, the majority of individuals (52.9 percent) viewed their positions as "Clerks", whereas NCOs were split between "Clerks" with a 30.2 percent response rate and "Managers" with a 32.6 percent rate; another 18.6 percent viewed their role as "Technical Advisors." For SNCOs, 57.1 percent viewed their role as a "Manager." This result is appropriate since most SNCOs fill managerial type positions. Figure 4-7 depicts the present role by respondent rank.

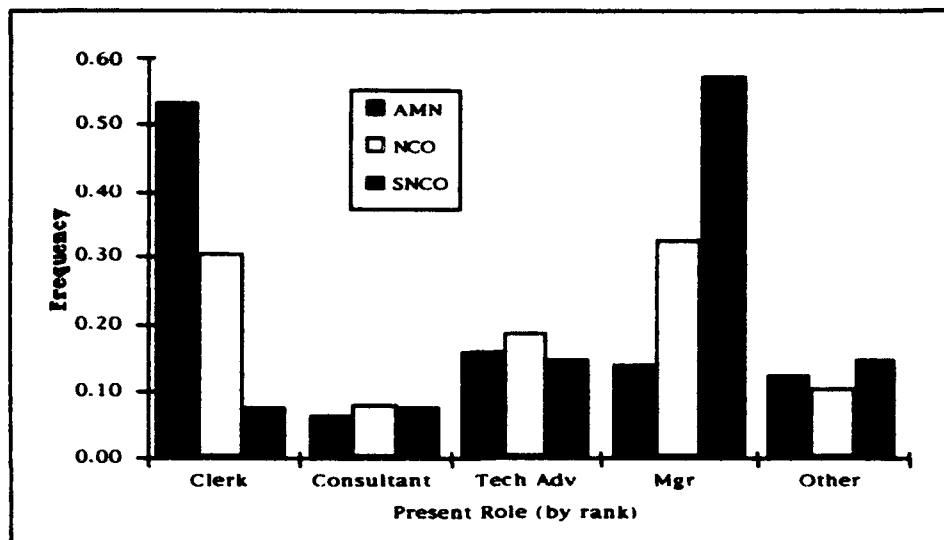


Figure 4-7. Response for Present Role (by rank).

Future Role. When asked how individuals perceived their optimal future role as an enlisted Information Manager, most selected the response, "Manager," with 80 responding accordingly for 54.8 percent of overall response. Almost 20 percent of respondents characterized themselves as "Technical advisors," 11 percent as "Clerks," 7.5 percent as "Consultants," and 6.8 percent as "other", such as computer operators. Figure 4-8 represents this overall response.

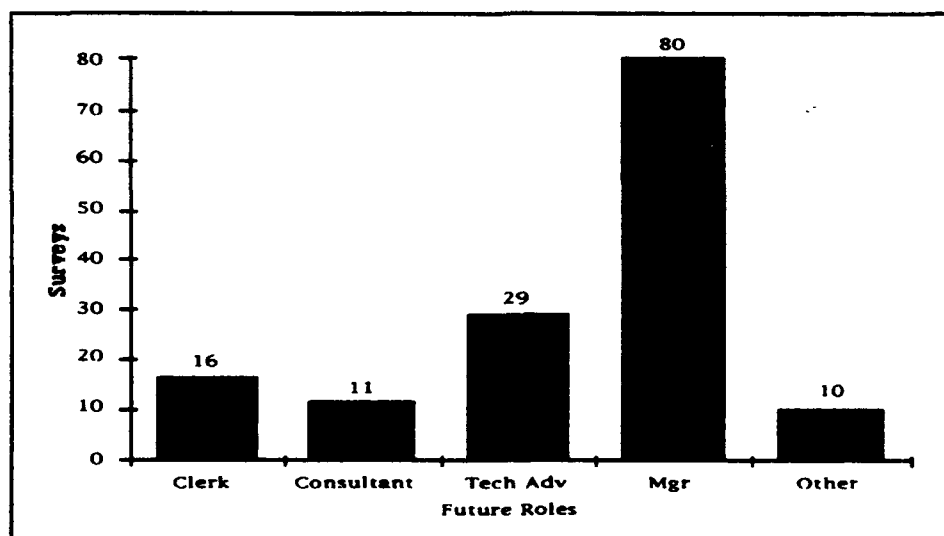


Figure 4-8. Response for Future Role

When comparing the results according to the three categories of respondents (Airman, NCOs, and SNCOs), the largest percentage of each category agreed that they viewed the information managers' optimal future role as a "Manager." Figure 4-9 depicts the respondents future role by rank.

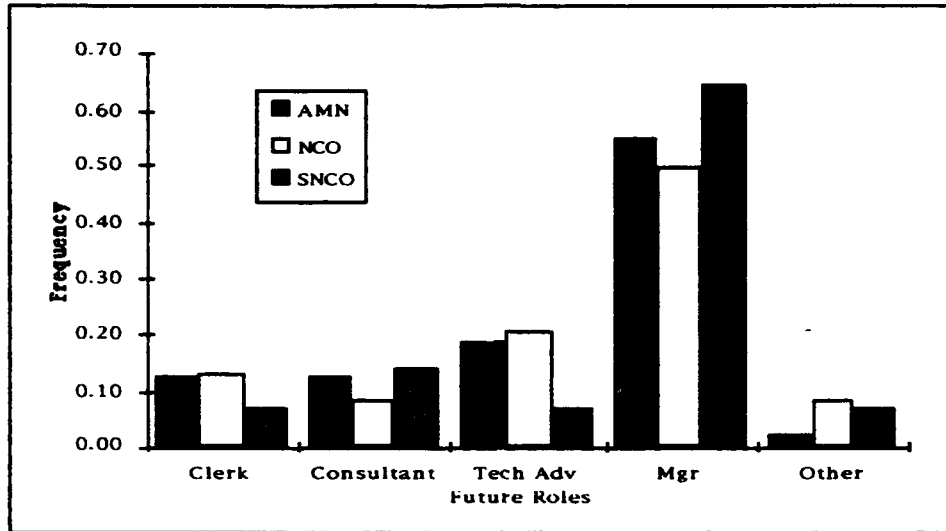


Figure 4-9. Response for Future Role (by rank).

Vocabulary Familiarity. Part Two of the Needs Assessment Survey asked individuals to report their degree of familiarity with certain terms and program/concept names. In addition, if an individual was familiar with a specific term, he or she was asked to report how they acquired the knowledge. The following scale was used to establish an individual's level of familiarity:

Degree of Familiarity.

- Option 1 - Completely unfamiliar with this concept.
- Option 2 - Somewhat familiar with this concept; heard or read about the concept in passing.
- Option 3 - Fairly familiar with this concept; understand definitions and context used within the Air Force.
- Option 4 - Very familiar with this concept; can discuss the topic fluently.

Overall results showed that most individuals were not familiar with IRM-related terms as listed in the survey. In nine out of fourteen terms, more than 50 percent of all respondents selected Option 1--"Completely unfamiliar with this concept." In four of these cases, the percentage was greater than 75 percent. Table 4-1 depicts the overall frequency distribution for these nine terms.

Table 4-1
Degree of Unfamiliarity with Selected Terms

Term	Option 1	Option 2	Option 3	Option 4
Corporate Info Mgmt	69.0%	23.4%	6.9%	0.7%
Business Process Re-eng.	86.2%	9.7%	3.4%	0.7%
Info Needs ID & Analysis	64.1%	28.3%	6.2%	1.4%
Information Engineering	71.7%	22.1%	4.8%	1.4%
Document Imaging	50.7%	29.5%	11.6%	7.5%
Electronic Data Interchange	70.3%	18.6%	9.0%	2.1%
DMRD 918: CIM	87.6%	8.3%	4.1%	0.0%
DBOF	80.6%	15.3%	2.1%	2.1%
IDEF	89.6%	5.6%	4.2%	0.7%

Those terms with a higher overall frequency level were IRM, Information Resource Center, IM Strategic Plan, Information Flow, and Data Administration. However, even two of these--Information Resource Center and Data Administration--had more than 40 percent of all respondents stating no familiarity with the subject.

In some cases, this lack of familiarity is understandable since the programs/concepts are so new--as in the case of Business Process Re-engineering and IDEF. In these cases, the concepts are only now being covered in the AFIT IRM Master's Program for the class graduating in December 1993. For other programs, such as Information Needs Identification

and Analysis, the career field has been responsible for these areas since the development of the DoD IRM program in the mid-to-late 1980s.

Analysis by Category. The same data was also analyzed by personnel category—Airmen, NCO, and SNCOs. In general, the results showed that familiarity in these subjects did increase as rank increased. However, in a couple of situations, the level of knowledge for NCOs appeared slightly below that of Airmen. This was determined by slightly higher percentage of NCOs selecting Option 1 than Airmen in two areas: Corporate Information Management and Information Resource Center. Airmen selected Option 1 for CIM 69.4 percent of the time versus 73.2 percent for NCOs. For Information Resource Centers, Airmen selected Option 1 44.9 percent of the time compared to 48.8 percent for NCOs.

Results from the three rank categories showed that IDEF, DMRD 918: CIM, and Business Process Re-engineering were the terms that were the least familiar of the fourteen presented in the survey. Those with a higher level of familiarity included IRM, IM Strategic Plan, Information Flow, and Information Resource Center.

Fisher's Exact Test. When performing the Fisher's Exact Test to determine whether the response selected was dependent upon the rank category of the respondents, the following terms were found to be significant: CIM, Information Resource Center, IM Strategic Plan, Information Flow, Data Administration, EDI, DMRD 918: CIM, DBOF, and IDEF. For more complete analysis of the Fisher's Exact Test, refer to Appendix F.

Analysis of Variance (ANOVA). Analyses of variance were conducted to determine significant differences between responses by differing demographic characteristics. Responses were compared by rank, by

skill level, by organizational level, and by job type. Significant differences in each comparison are reported.

When an analysis of variance was conducted on responses by rank, the following terms were noted to have significant results:

CIM -- significant differences were reported between responses of Senior Master Sergeants (SMSgts) and Sergeants (Sgts).

Business Process Re-engineering -- significant differences were reported between SMSgts and Sgts, as well as SMSgts and Senior Airmen (SRA).

DMRD 918: CIM -- significant differences were reported between responses of SMSgts and Airmen First Class (A1C), SRA, Sgts, Staff Sergeants (SSgts), and Technical Sergeants (TSgts).

IDEF -- significant differences were reported between responses of SMSgts and all other ranks, except for Chief Master Sergeant (CMSgt).

It is important to realize that the number of SMSgts responding to the survey was quite low, and thus, may be the reason why this rank, specifically, was found to be significant.

The analysis of variance by skill level resulted in a significant difference in the degree of familiarity of 9-skill level respondents when compared with 3-, 5-, and 7-level respondents for the following terms: CIM, Business Process Re-engineering, DMRD 918: CIM, and IDEF. For DBOF, a significant difference resulted between responses of 9-skill level and 5-skill level personnel.

Analysis of variance by organizational level resulted in only one term with a significant variance in response. This term was DMRD 918: CIM, where a significant difference between responses of base-level, as well as unit-level and MAJCOM-level personnel was noted.

Analysis of variance conducted by job type resulted in no significant findings.

Overall Knowledge Acquisition Analysis. When analyzing the knowledge acquisition method that was used most frequently to acquire knowledge about the specific terms in the survey, the overwhelming response was through personal reading/research. This method of self-study was selected for nine out of fourteen terms. The second most selected method was interaction with others. See Table 4-2 for a complete breakout of the most frequently selected knowledge acquisition methods by category. In Table 4-2, the letter refers to the method of knowledge acquisition most frequently selected. Each category (AMN, NCO, SNCO) is ranked according to familiarity with the concept. The lower the ranking, the lower the degree of familiarity. The following scale was used for knowledge acquisition:

Where did you acquire this knowledge?

- A - Formal Air Force education.
- B - On-the-job training.
- C - Degree-awarding education program (CCAF, B.A., M.S., etc.)
- D - Interaction with other Information Managers.
- E - Personal reading/research.

Table 4-2

Method of Knowledge Acquisition and Ranking of Terms by
Degree of Unfamiliarity

Term/Concept	AMN	Rank	NCO	Rank	SNCO	Rank
Info Resource Mgmt	B,D	14	B,D	12	A,D,E	11
Corporate Info Mgmt	D	7	E	5	C,D	7
Business Proc Re-eng	B,D,E	2	D	3	D	1
Info Resource Center	E	12	D	10	D	11
IM Strategic Plan	A,B,E	13	A,B	14	E	9
Info Needs ID & Anal	E	8	D,E	8	E	5
Info Flow	B	11	A,B	13	A,E	11
Info Engineering	E	5	D	7	E	4
Data Administration	B,E	10	D	11	B,E	9
Document Imaging	E	9	D	9	E	11
EDI	E	5	E	5	E	8
DMRD 918: CIM	B	2	E	2	E	1
DBOF	D	4	D,E	4	E	5
IDEF	E	1	E	1	E	3

Results of the Fisher's Exact Test for dependency showed nearly no significant relationship in the way respondents of differing rank categories acquired knowledge of a given term. The only term which showed any significance by rank category was Information Engineering with a probability of .026. Here, the mode for NCOs was "Interaction with others" as well as

slightly lower frequency levels for "OJT" and "Formal education." Airmen and Senior NCOs most often selected "Personal reading/research" as their means for acquiring knowledge.

Functional Issues. Part three of the Needs Assessment Survey asked respondents to evaluate certain responsibility statements which were grouped according to functional area. Statements were either categorized as current, future, or training. Respondents were to determine how closely the statements marked current depicted the present function within their organizations. Statements marked future were to be evaluated for how accurately they represented the future of IM. Statements marked training were to be appraised for the most appropriate mode of training.

Results are reported via overall frequencies and by an analysis of the three rank categories--Airmen, NCO, and SNCO--used earlier in this chapter. The analysis focuses primarily on dependency of these three categories to determine whether or not significant differences exist in how members of the three categories respond. The following scale is used:

Current and future rating scales.

- Option 1 -- Completely unfamiliar with this concept.
- Option 2 -- Concept familiar, but not enacted within my organization.
- Option 3 -- Concept familiar; organization recognizes importance, but not yet enacted.
- Option 4 -- Concept familiar; organizational steps in direction have been taken.
- Option 5 -- Concept is completely integrated; this is the way we do things.

Current Questions. This set of questions deal with roles and responsibilities of enlisted information managers as they currently exist within organizations. By referring to the Likert scale provided in the survey, respondents determined to what degree they were familiar with the responsibility discussed.

Because these responsibilities are already being practiced in most organizations, there is intrinsically a high degree of familiarity. The following current topic areas were received with over 50 percent of respondents responding with Option 5, "Very Familiar."

Table 4-3
Option 5 Responses for Current Responsibilities

Topic Area	Airmen	NCO	SNCO
Forms Management, Current	65.3%	76.5%	66.7%
Publications Management, Current	83.7%	91.9%	78.6%
Records Management, Current A	76.0%	83.7%	92.9%
Records Management, Current C	62.0%	68.6%	57.1%
Admin. Orders, Current	55.1%	77.1%	76.9%
Admin. Communications, Current	60.0%	67.4%	91.3%
Plans & Programs, Current A	43.8%*	58.8%	50.0%
Communications Security, Current	49.0%* *	69.9%	69.2%
* Additional 27.1% chose Option 4.			
* * Additional 16.3% chose Option 4.			

Several current topic areas produced percentage responses which demonstrated less familiarity than shown in Table 4-3, but higher than average. Option C is defined as average. A possible conclusion for these responses is that activities are performed in some areas, while not in others. Combat Readiness and Support is certainly a major issue with ACC, though probably not so critical with AFMC. The following current areas can be described as "Familiar:" Automation Requirements, Current; Combat Readiness and Support, Current A & B; and Plans & Programs, Current B.

Some topic areas were not familiar to respondents, despite the fact that they are described in Air Force regulations as current duties. Explanations for this lack of familiarity include the possibility that innovative concepts have already replaced outmoded practices. These topic areas are discussed below:

- 1) Records Management, Current B: Identifies the need and processes the requests for miniaturizing documents on microfilm. The technology for this responsibility is expensive and has generally not been distributed to locations lower than base or wing level. Also, the practice of miniaturizing documents is becoming obsolete due to increased automated storage capacities.

- 2) Information Processing, Current: As information is requested from customer, answers are simply created or provided with no thought as to why information is needed. Respondents may have considered this question to be rather ambiguous, being more of a thought statement. It appears that individuals simply did not understand the question.

No significant differences were found to exist in the Chi-Square analysis when comparing rank groups--Airmen, NCOs, and SNCOs. In other words, all rank groupings tend to respond in similar fashion, whether unfamiliar or very familiar.

Analysis of Variance (ANOVA). Analyses of variance were conducted to determine significant differences between responses by differing demographic characteristics. Responses were compared by rank, by skill level, by organizational level, and by job type. Significant differences in each comparison are reported.

When an analysis of variance was conducted by rank, the following topics were noted to have significant results:

Records Management (Current A) -- significant differences were reported between responses of Airmen and those made by SRA, Sgts, SSgts, TSgts, and Master Sergeants (MSgts).

Administrative Orders (Current) -- significant differences were reported between responses of Airmen and those made by SRA, SSgts, and TSgts.

Since the number of Airmen responding to this survey is rather low, this might have a bearing on the fact that these response variances were found to be significant.

The analysis of variance by skill level resulted in a significant difference in the responses for the following topics:

Forms Management (Current) -- significant differences were reported between responses of 3-skill level personnel and those holding a 5- or 7 skill level.

Records Management (Current A) -- significant differences were reported between responses of 3-skill level personnel and those holding a 5- or 7-skill level.

Administrative Orders (Current) -- significant differences were noted between responses of 3- and 7-skill level personnel.

No significant differences were noted when an analysis of variance was performed by organizational level, and only one topic resulted in a significant

finding when analysis was conducted by job type. This topic was Automation Requirements (Current) where a significant difference was noted between responses of persons working in functional IM positions and Executive Support positions.

Future Questions. The intention of the survey was to determine the knowledge baseline by asking current questions, but more importantly to determine the degree to which respondents were familiar with innovative concepts being introduced into the career field. Unlike the responses provided in the preceding "Current" section, none of the responses concerning "Future" concepts is disproportionately familiar to the respondents. By combining Options 4 and 5, the concepts presented in Table 4-4 are the most familiar.

Table 4-4
Options 4 & 5, Future Responses More Familiar

Topic Area	Airmen	NCOs	SNCOs
Forms Management, Future	55.1%	48.9%	71.4%
Records Management, Future A	36.0%	46.5%	42.9%
Admin. Orders, Future	44.9%	50.0%	53.9%
Information Processing, Future A	40.0%	48.8%	69.3%
Information Processing, Future B	40.0%	58.0%	69.3%
Information Processing, Future C	40.0%	46.9%	69.3%
Admin. Communications, Future	32.0%	32.5%	61.6%
Plans & Programs, Future A	45.9%	45.6%	69.3%
Plans & Programs, Future B	39.6%	27.6%	38.5%

Table 4-4 shows the percentages of respondents who have more than average familiarity with the topic area. From the responses, one can determine that there are no statements in which there is a strong familiarity (greater than 75 percent) with the topic area. Plans & Programs (Future A) is one of the most familiar responses. This statement reads, "Analyzes present processes to ensure that the needs of the customer are being met in the most efficient and effective way possible." New advances in the training and application of Total Quality Management (TQM) are almost certainly a major factor here. Key TQM words are used that are probably very familiar to the respondent; among them are "processes," "customer," and "efficient."

There are a few topic areas in which respondents demonstrated average knowledge. Among these are three future statements (A, B, and C) in the Automation Requirements functional area. The statements made for these topic areas were based on hardware and software applications within the IM environment.

Several future topic areas were very unfamiliar to information managers. Reasons that can account for this include non-communication of these concepts to the field; non-committal of resources; lack of training; and newness of the concept. The following figure describes the lack of familiarity with the specified future topic areas:

Table 4-5
Future Concepts, Option 1 (Responses Unfamiliar)

Topic Area	Airmen	NCOs	SNCOs
Publications Management, Future	55.1%	61.7%	42.8%
Records Management, Future B	65.3%	72.1%	50.0%
Records Management, Future C	68.0%	80.0%	50.0%
Automation Requirements, Future D	66.0%	70.2%	33.7%
Automation Requirements, Future E	73.4%	71.1%	33.7%
Combat Readiness & Support, Future A	61.7%	67.0%	50.0%
Combat Readiness & Support, Future B	67.4%	65.8%	58.3%
Computer Security, Future	73.5%	59.6%	76.9%

Analysis of Variance (ANOVA). ANOVAs were also conducted on the future topic areas to determine significant differences between responses by differing demographic characteristics. No significant differences were noted when compared by rank, organizational level, or job. One concept was found to be significant by skill level. This area was Information Processing (Future D). Significance was noted between 3-skill levels and 9-skill levels. This means that responses for these two categories varied significantly when compared with each other.

Synopsis of Respondent Open-End Comments. Comments from the enlisted personnel who responded to the open-ended questions on our survey were primarily concerned with two areas:

- 1) Where is the training?
- 2) Why are new IM initiatives not communicated to the field?

These two questions are adequately discussed in all parts of this thesis. The authors ask, "How can the enlisted be expected to be on the 'cutting edge,' if they do not even know what the cutting edge is?"

In reference to the training issue, this area of concern was mentioned on the very first response we received. The individual noted, "Students are rushed through tech school to meet quotas and are not properly trained" (Survey Response 1: Appendix E). This concern is typical of NCO concern about new incoming enlisted members. This particular response came from a Technical Sergeant who, in the IM career field, is a first-line supervisor. Another NCO recounts a similar predicament:

My previous office received three '3-levels' who went through the tech school system. While all three were self-driven to perform at their best for putting out quality products, they couldn't due to the inadequate training they received at tech schools. (Survey Response 26: Appendix E)

Entry level airmen are not the only personnel lacking in adequate training.

An ACC Sergeant states:

...there should be a refresher course to catch us up to the current technology that is making our jobs easier. Otherwise, how could this technology make all of us more efficient info managers when there is no knowledge of how to use them...it is only by extensive self-study that I am as capable as I am... (Survey Response 36: Appendix E).

There are many such comments concerning the lack of training. Most importantly, these enlisted information managers are real people speaking about real problems.

Similarly, there is a distinct lack of communication of innovative ideas to the field. The last example given in the previous paragraph vividly portrays the situation that information managers increasingly find themselves in. Furthermore, there are conflicting signals as to what future roles and responsibilities will include.

According to one respondent, "...the IM folks didn't have any knowledge of how the software used with E-Forms worked. We aren't computer experts and it shouldn't be expected of us" (Survey Response 106: Appendix E). Information managers are confused as to the level of system expertise that is expected of them, and the true role they will have in managing information in future Air Force organizations.

Summary.

In Chapter 4, we reported the data that was derived from three sources: expert interviews, results of the U&TW, and survey responses from information managers in the field. Throughout the data, several key observations became quite clear. Although individuals agreed that our role as information managers has and is continuously changing, many individuals are still functioning under the administrative job description of "clerk." Emphasis continues to be placed on managing programs and products, rather than managing the actual information resource.

Respondents agreed that increasing automation has made an impact on the information management career field. However, this impact is not always positive, particularly when training opportunities do not keep up with rapidly changing technologies.

For the most part, enlisted personnel in the field are not familiar with IRM-related issues and concepts. This is exemplified by the low level of familiarity on terms and future concepts addressed in the Needs Assessment Survey. The level of knowledge awareness that is present was attained not through technical training and formal courses, but through personal reading and research, as well as interaction with others.

V. Summary of Findings, Recommendations, and Conclusions

Significance of Results

During the last decade, the Air Force Information Management (IM) career field experienced dramatic changes in meeting its mission requirements--the management of information, in all forms, throughout its life cycle. Without control of information, the Air Force will not be able to implement its innovative, quality programs like business re-engineering and total quality management. Each of these programs requires the organization to gain control of activities and quantify them through the use of metrics.

Enlisted information managers are in a perfect position to make significant impacts on the way the Air Force conducts business. They are found in nearly every unit at every level through the Air Force. However, in order to provide expert guidance, IM personnel must be knowledgeable of pertinent issues affecting the management of information, familiar with new technologies which ease the management process, and skilled at applying their knowledge to support the needs of the customer.

Captain Cheryl Coleman stated, "...research was developed to provide an initial base of knowledge so that programmatic research efforts could follow" (Coleman, 1988:77). We intend this study to set the ground for further research concerning enlisted roles and responsibilities in the Air Force.

Our purpose statement deals with communication between the senior IM leadership and the troops in the field concerning current and projected changes within the IM career field. The method in which information managers are trained is also a primary concern.

In order to create a snapshot of the IM enlisted familiarity with current ways of doing business within functional IM, as well as future terms and

concepts, the authors of this thesis conducted an expert group interview, a U&TW interview, and a survey. Chapter 4 detailed results of these requests for information. The following summarizes key findings for each investigative question.

Investigative Question One. Are the roles and responsibilities of enlisted information managers changing? Unquestionably, the roles of the enlisted information manager are changing. Historically, managers of information were viewed as administrators. The Air Force recognized the emerging importance of information by going so far as to change the career field name from "administration" to "information management." This name change should also signify a change in attitude.

Enlisted personnel have always numerically dominated the career field. With the ever-shrinking numbers in the Air Force, they are now the lifeline of a critical organization. This role change--or challenge--must be further defined by senior leadership; then the new expectations must be communicated to the field. Once this is accomplished, enlisted information managers must be provided with training and education opportunities to ensure they are qualified to fill these new roles.

The results of the field surveys show that Airmen and NCOs presently feel that they are used more as clerks or secretaries. The response "Secretary" was submitted seven times. The future role of enlisted IMs must be as true managers of information, consultants, and, to some degree, technical advisors.

Investigative Question Two. Has automation contributed to these changes? Automation has not only contributed to the changes in the enlisted IM roles and responsibilities, it has necessitated them. The computer innovated virtually every aspect of IM. Automation increased the amount of processing power by an order of magnitude. Due to automation, forms that once took hours

to complete, now often take only a few minutes. Not only are tasks done faster, but repetition and variance in the process has decreased. However it is counter-productive to automate an inefficient process. The Information Management career field has attempted to deal with the problem of premature automation since the onset of the computer generation.

The initial phase of integrating computers into the IM workplace is generally complete. By this, we mean the function of computers has evolved from their initial uses. For example, first generation systems printed word processed information on existing forms. PerForm Pro, a recently introduced software package, enables the user to simply input the necessary data; then, the software creates a computed document--form and data combined. This allows one-for-one usage, prevents waste, and provides easier user interface. Those who have attempted to word process on pre-printed forms know the myriad of problems involved in sizing and positioning text.

Investigative Question Three. Are enlisted information managers in the field aware of innovative programs and concepts which senior leadership is projecting to be included as future responsibilities of the IM career field? The data showed that enlisted IMs in the field were basically aware of several of the innovations in the career field, but had very little in-depth knowledge. The concepts for innovations are not being communicated adequately to the field. From the lowest Airman to the Chief Master Sergeants, there is a disparity in perception of where we are headed. Senior level management and Information Resource Management personnel concentrate on such cutting edge issues as Electronic Data Interchange (EDI) and IDEF modeling, while the field is practicing TQM. In other words, when we move one direction, the field is still trailing off elsewhere.

The typical enlisted person is not being made familiar with the terms of innovation and therefore is not being given the opportunity to excel. The data reported in Chapter 4 attests to the lack of familiarity with terms such as Corporate Information Management, IDEF, and Business Re-engineering. If these programs are the way of the future, then the people who must enact them must be informed.

Investigative Question Four. What are the preferred methods of training on these future initiatives? On-the-job training (OJT) was the most frequent response given by Airmen to the proposed methods of training on the future concept issues. This is most likely due to the fact that virtually all their training is conducted in this manner, and it is the one with which they are most familiar.

NCOs were divided between OJT and technical training. Both NCOs and Airmen are familiar with technical training. As recent graduates of technical school, Airmen very likely do not feel that additional training in this manner will be effective until they have had the opportunity to apply already learned concepts. NCOs rely on Career Development Courses (CDCs) to provide job knowledge pertinent to their career specialty; this knowledge is then tested and the results used to determine advancement in rank. CDCs are materials provided for enlisted personnel for self study. They are rather difficult, but would be more understandable if taught first hand (technical training). NCOs, however, are still very supportive of OJT as this is the method which they employ most often, whether by choice or not.

Senior NCOs show a propensity for some of the more advanced and innovative forms of education. Though they supported OJT and technical training, significant numbers of them supported degree-based education and Computer-Aided Instruction (CAI).

Overall, the enlisted force supports training through OJT. In order to have good OJT, trainers must be knowledgeable and aware. In many cases, however, this awareness does not exist.

Recommendations

Results of this research identify the need for the action in the following three areas:

1. Clarification of the future information management role,
2. Communication of changing requirements and expectations to all members of the career field, and
3. Development of training opportunities to ensure a qualified force capable of meeting these changing needs.

The first recommendation requires that senior leadership (officer, enlisted, and civilian) further define the future role of the career field, and then market this new role as a value-added function within all Air Force activities. This process has begun with the development of the new IM strategic plan; however, much more needs to be done to outline the distinct part each personnel category (officer, enlisted, and civilian) will play in this new endeavor.

Once new roles and responsibilities are refined, there is a need for increased communication to the field on future plans and programs, as well as the direction toward which we are headed. Because AFR 4-1 emphasizes that base IMs have an active role in the management of all IM personnel resources on base, and are responsible for providing training in all areas of IM, this tasking needs to float down to base level. But this means that senior leadership at Air Staff and MAJCOMs must ensure the base IMs are abreast of current plans and are educated on new programs and concepts. Furthermore, emphasis must

be placed on this requirement to ensure that base-level IMs are carrying out their part of the communication process.

In response to issues on training, we recommend a decreased reliance on technical training to provide all the answers to training questions. Because of bureaucratic requirements, training cannot keep pace with the rapidly changing environment in which people are working. There needs to be an increased emphasis on training at base level through whatever means possible. Other training avenues include the development of more correspondence-type courses and Professional Continuing Education (PCE) courses sponsored through the Air Force Institute of Technology.

In addition, there needs to be an increased use of AFIT IRM graduates as educators and trainers. If we want a greater number of our population more system/IRM literate, then we need to use the critical few that already have it to educate others.

As is evident in the results of the survey, many enlisted personnel, particularly those in the NCO ranks, selected on-the-job training as the preferred mode of training. However, in order to provide effective OJT, many people acting as trainers would need to be proficient and knowledgeable on the subjects being taught. The results of our survey show that not even a basic familiarity exists in many cases. So, initial training needs to be established in order to provide training and educational opportunities which would allow for the mass training of larger numbers of individuals at the same time. Furthermore, developers of CDCs require special training to ensure they stay abreast of changing programs and concepts within the career field; only then can they develop materials which will truly address the needs of the field. The same requirement is necessary for instructors of technical training courses. It is not uncommon for instructors to be out of the "operational environment" for

much more than the usual four-year tour. When programs change at a rapid pace, instructors can become extremely "out of touch" with what is really happening in the field. To meet these challenges and ensure currency, technical training staff at Keesler AFB must be provided advance copies of program changes, direct support to ensure curriculum is updated expeditiously whenever needed, and educational opportunities to ensure instructor proficiency is maintained.

Future Research

Because the success of a new product is highly dependent upon how well it is marketed, additional research should address the perceptions of the customers as to the responsibilities and qualifications of 702X0s. For instance, what does the typical commander or supervisor expect from a 702X0, and are present personnel providing the guidance and expertise required to meet the commander's needs?

Furthermore, we recommend the use of results from the 1993 Occupational Measurement Survey of Enlisted 702X0s to compare against what was reported back in 1987. Through the identification of changes over the past five years, significant trends could be established and used to focus on future needs and responsibilities, as well as critical training requirements.

And finally, an additional study could perform an analysis of how civilian companies are using information managers at all levels, and how they are incorporating IRM-related issues into their administrative staff positions.

Appendix A: Expert Group Responses

A. Response 1

1) Key Duties:

a) Support to the commander (most important to the warfighting capability) as executive support (good old fashioned word processing). That is where the bulk of our people used to be. I don't know how many of the enlisted troops left are in support positions. Many of them were transferred to the personnel world.

b) Base level duties such as record keeping, publications distribution, reproduction, BITS (next is mail delivery for the morale of the troops).

2) Information is becoming electronic very quickly. Electronic mail where it is implemented becomes the primary communication link rather than by phone or letter. FAX is second nature to doing business today, but still has to be a paper copy. As more people get used to computers and trust computers as a primary storage device, paper record keeping will diminish. The various functional communities are starting to implement CD ROM technology with Regulations: The supply community is trying to put the AFR 67-1 series on CD ROM and XXX is putting its forms/pubs on a network for on-line access.

3) Yes, the primary impact will be on networking of computers. As a result we will move more publications and forms to an electronic environment, either on line or on CD ROM. Electronic Record Keeping will also be a big change. Many of our customers are looking for the IM to provide the guidance for electronic record keeping. Training our enlisted people for this future world can best be accomplished by bringing IRM to the school house at Keesler and to the new seven-level courses to be offered. Many of the Publishing Distribution Office 702s do not know how to or are not connected to DDN to access the bulletin board at Air Staff to download electronic forms. They are sitting back waiting for the disks to arrive through the mail. As a result, customers get a bad perception about the PDOs response.

4) We should be working our way out of the jobs we now do at base-level IM. Seventy to eighty percent of the forms should go electronic, ninety-nine percent of the publications should go electronic, and all those old records on the shelf should be scanned into an electronic form. We will practically eliminate the need for a PDO and PDC. What remains could be turned over to supply. No more mass mailing of publications and forms, little electrons will be pushing things around and updating pubs, eliminating countless hours of time for posting pubs and saving millions of dollars in mailing costs. The records we have in warehouses today should be scanned into files and stored electronically, doing away with massive warehouses full of documents. All new records should be put into hypertext format for rapid search and retrieval. You ask if this will happen in five years, I doubt it. But we will begin moving in that direction. The duties that will expand will be as system administrators for new networks. Only as system administrators will we be able to monitor and control electronic forms, publications and record keeping.

5) Present training does not provide the skills to be system administrators for networks. We are stepping into the 49 world here. To begin to get where we are wanting to go we need to train our enlisted people to understand networks, electronic records, CD ROM, hypertext and hypersearch, electronic forms, etc.

B. Response 2

1. Not sure. I don't know much about enlisted IM jobs except that they deliver mail and post pubs.

2. YEESS!!!! One could certainly write a book about the impacts of technology upon information management. Messages are generated on computers rather than typewriters. The ability of enlisted IM'ers to correct mistakes and reprint messages has caused managers/officers/bosses to demand more perfection in the quality of correspondence leaving the office. It has been my experience that bosses (who are older and did not grow up in the computer age) tend to expect the staff to produce perfect letters and messages since they have a "computer" to "automatically" and "instantly" reproduce the document.

3. Yes!! I'm sure that fewer enlisted personnel will be required in the future due to automation. For instance, regular mail delivery will be replaced in part by the use of electronic mail and also in part by the current plan to rely on the US Postal Service for mail delivery rather than BITS. Also, much work is being done to replace current forms with electronic forms as well as replacing filing cabinets with electronic files.

-How can enlisted be prepared?

--Enlisted personnel need computer training to be proficient in word processing and data management.

4. BITS. i.e.. enlisted personnel riding around base in the back of a van sorting and delivering paper mail.

5. Not in my opinion. Enlisted personnel I've worked with, on the average, are not sufficiently computer literate.

C. Response 3

1. NA

2. Yes, we've implemented a large PC LAN to automate functions and give our action officers and staff members the tools to make their jobs/lives easier. Now tasks/job that were previously done manually are now being done electronically -- meaning more efficiently & faster. Interestingly enough, we've changed the mind-set of this command (XXXXX); with this "infrastructure" in place (and continually growing), we're now changing our workplace lifestyles. The end-users (yes! those people!) are now motivated to do things electronically. For example, users don't just want their computers for "typing" but they're using computers to transmit documents electronically for coordination. Users are changing their lifestyles: messages are now being left via e-mail instead of "yellow stickies". TDY orders that were previously handled by 6-8 different people are now being coordinated electronically from start to finish. Users are wanting to access more systems and more information from other (often external) sources. Briefings are now being done

electronically -- in real time -- instead of requiring some hard-copy print-out or slides. Also, an example of negative usage: "Memo grenades" can be used instead of face-to-face discussions (i.e., arguments).

Biggest impact: A change in life-style! Computers are a necessity at XXXXX.

3. Automation will have an impact ONLY if IM is sincerely interested in working it. Automation is truly an SC function but now IM wants a piece of the pie. More importantly, IM must define what its role in office automation is: I've been saying all along they must develop the policies, procedures, and business processes to use the systems. Their role is not to develop the systems. IM must use IRM'ers to analyze WHAT information is needed WHERE, HOW the information is being transmitted, and MORE IMPORTANTLY: WHY is information needed from point A to point B. The last point is this: DON'T AUTOMATE OLD INEFFICIENCIES! Marry Information Systems with Information Management to give the users (read customers in this quality environment) the tools they need to do their jobs smartly. The problem is that IM doesn't understand their role; IM wants to be SC. IM has a great opportunity; the old mind-set with MIS managers (SC for example) was that Info Systems could "go it alone" without IM involvement. IM historically has been willing to let them do that. now IM is expected to be an active part of computerization/office automation. The big question is will IM step up to that task or look the other way? We IRM'ers want IM to step up. But stepping up requires people, training, money, and desire and many IMs don't want to dedicate resources.

4. NA

5. IM really needs to define their role in the USAF. Will they continue to do DA functions (probably yes) or will they move to true IRM (probably not). Interestingly enough, the customers want IM to be both. IM needs to make better usage of IRM grads and put them in positions where they can make an impact and this is not at the base level! Put them in the command where their education (AFIT) can be best utilized to change IM itself. As the USAF moves into the computer era, enlisted 70XXXs need to be smarter on information systems and information as a tool -- and not just DA functions. Hopefully, the tech training they receive is becoming more IRM oriented (granted that's hard to do in a 6-8 week tech school).

D. Response 4

(1) What is the present role of enlisted information managers?

- What are the key duties and responsibilities being performed? So far as I can tell (keep in mind I'm at a MAJCOM HQ and my background is limited to Section Commander jobs and AFIT), enlisted IM'ers main responsibilities fall squarely within the "functional" tasks described in the AFR 39-1. These include the tired old functions of filing, records management, printing-related duties, FOIA managers, preparing correspondence and messages, filling requisitions for forms and publications, maintaining a master publications library or pubs set, managing suspense systems, managing unit or base awards programs, preparing performance reports, editing, preparing local publications and supplements, preparing and authenticating administrative orders, running BITS, managing official mail, working with document security, posting

changes to publications, running base locator service, providing a fax service, managing base details (due to change, under the Composite Wing plan), distributing publications, training CARS and FOIA managers, disposing of records and managing destruction facilities and staging areas, and planning for IM support of contingencies. Of course, these functions come straight from the STS 702X0. My base-level contacts confirm that all these functions are indeed being performed by enlisted IM'ers. The great bulk of these things is still paper-only, much to our detriment.

- Which of these are most important? That's difficult for me to answer, given my background. It's also, as I interpret it, a compound question in that it assumes the above functions need to be done at all and are accurately placed with the IM career field (assumptions I do not concur with). At any rate, operating under the mission of "getting the right information to the right people at the right time," I consider the most important (traditional) functions to be those that deal directly with disseminating timely, accurate, relevant information throughout the USAF and its sub-organizations. These would be publications distribution and the Base Information Transfer System. Next would be those functions dealing with the standardization of information--forms management, document creation, records management, etc. My caveat, though, is that we should not be doing these things the way we are now. We need to get out of the paper-pushing mode.

(2) Has automated technology impacted the way information is managed? Yes, but the potential is still much greater than the applications in place, and we tend to run 10 or more years behind private industry.

- In what ways has it impacted or not impacted? While technology has had a significant impact on the management of information, this impact has been severely limited by organizational factors, particularly organizational structure and power networks, and the outmoded management/leadership paradigms of nearly every DoD and USAF decision maker, and most IM'ers (including some AFIT grads--seem the graft doesn't take with everyone). Obviously, the capabilities of computers have made document preparation and management much more convenient. On-screen editing, electronic file directories, shared resources, and high quality printing have revolutionized document preparation. The benefits are usually ease (not having to re-key an entire document to make corrections), time savings, and archives of electronic files. Interestingly, automation has spawned a demon too. Now bosses expect nothing less than absolutely perfect, professional publications of every routine correspondence. Without doubt, we waste a great deal of time seeking perfect trivial communications--and I'm sure we're wasting more paper than ever before. Some of these trespasses are being addressed in the moves toward LANs, electronic mail, electronic forms and (some day) electronic publications. The use of e-mail for both unofficial and official communications has reduced BCC message traffic and official mail (at least from the volumes that would otherwise have been). E-mail is also much faster and more convenient than paper-based correspondence. Since e-mail is perceived (I believe) to be more akin to a phone call than a letter, people are more forgiving of errors in spelling, grammar, etc. This is a great benefit in that the information is transmitted with a minimum of overhead baggage. Saves time, frustration, and waste. Desktop databases have helped IM'ers, and everyone else, across the USAF. There must be thousands of user-created databases. Even with the incredible level of data redundancy, and the lack of standardization among

databases, this technology has made many units more effective than they had been when limited to paper data systems. Desktop spreadsheets, likewise, have improved the efficiency and effectiveness of managing tabular data, especially budgets and other financial data systems. The primary impacts of information technology have been time savings (for those who use technology appropriately), increased accuracy, and enabling users to extract more meaning (usefulness in making business decisions) from data.

(3) Will automated technology have a future impact on IM?

- If yes, where will the primary impact be? The primary impact will be in the organizational structure. The responsibilities now done by IM will be reallocated to other communities and the traditional IM community will die.

- How can enlisted IM personnel best be prepared? Enlisted personnel should not wait for the IM community to take care of their futures. It is unlikely to happen. One day "Sarge" will simply report to work and discover she's not a 70XXX any more. Then it will be too late for a graceful transition. IM'ers should decide whether they want to be on the generic support side of the USAF or on the IRM side. If they choose the first, they would be wise to enroll in some of the other support AFSCs' CDCs. If they choose the second, they should immediately start pursuing formal education to that end--i.e., IRM, MIS, CIS, IS, CS, or similar Bachelors and (yes) Masters programs. They should also learn as much about the 49XXX career field as possible, even enrolling in correspondence training. Even a secondary AFSC wouldn't hurt. Enlisted folks who prefer the IRM side of our future should pester their resident IRM officer(s) to start an IRM education program locally. Since IRM synthesizes from both the technology fields and the management fields (using general systems approach as a bonding agent), IM'ers who want to stick with IRM when we split (which I think is inevitable) should actively learn as much about modern management as possible, including economics, human factors, organizational structure and development, organizational behavior, and strategic management and planning. It's a tall order--but only people who are committed to "lifelong learning" will have a chance to get IRM into the USAF's mainstream.

(4) Will any present duties and responsibilities disappear in five years?

If so, which? I will take the liberty of substituting "functions" for "duties and responsibilities". Publishing should migrate to a DoD agency (perhaps the Navy) under DMRD 988. I assume this involves only paper publishing, but would not be surprised to see electronic publishing go that way as well. With publishing, we'll give up Reprographics. Personally, I'd like to see the whole shabang civilian-ized. Logically, legally-oriented functions, such as Freedom of Information Act (FOIA) actions, should migrate to the Legal community. There's no current plan to do this, but given the identity crisis IM is facing, it's a logical change to make along with all the others. FOIA got stuck with IM (DA) long ago because some decision maker decided to emphasize the fact that FOIA petitioners were seeking access to RECORDS, instead of the fact that the petitioners were seeking to have their petition interpreted in light of the LAW. In retrospect, we got shafted. I'm sure there are lots of other areas where functions are mislocated. It's not much different than having pilots call PA for their air-traffic-control guidance because PA deals with communicating! As "correspondence" continues to give way to "communications," the role of IM in standardizing routine communications could become more fuzzy. Admin

Comm has recently inherited responsibility for overseeing the implementation of electronic mail standard addressing systems (according to my boss). I find it odd that SC would give this up. I have my doubts that the division of IM and SC can persist very long, considering DoD's push for integrated management of all comm (including e-mail) resources. More and more, our business is evolving into electronic communicating, informing, archiving, etc. The differences between our business and SC's continue to blur. Remember we're the low-dog, low-clout factor in this equation. In a battle for responsibilities and authority, we'll have to be happy with the scraps SC tosses under the table. In that respect, we're already becoming enmeshed in SC. My point? I think I'm trying to say that one day SC will wake up and say, "Hey, we need all that stuff we've been passing off to IM." Then something's going to change. It would make sense for BITS to go away, or change dramatically. I know I said BITS was important, but that doesn't mean it's being done right or that we should own it. In its present incarnation involves the physical moving of packages (envelopes are just small packages). What we have is a private, local UPS-type service. If you ask UPS, or Emery, or FedEx what their business is-- information management or transportation--I bet they'll take transportation as their primary descriptor. If anyone looks at BITS that way, they will ask, "Why doesn't BITS belong to the Logistics community?" Good question. Better question: "Why don't we hire an expert, like UPS, to do this for us?" Another option: have a central package pick-up warehouse and make addressees come get their stuff. The point: BITS is begging for analysis and major change. I think we'll see those changes in your 5-year window. Base Details, under the Objective Wing concept, is due to relocate to the Wing CC's office without any tasking on, or robbing of bodies from IM. I'll believe that when I see it. Nobody wants that hot-potato. Most likely the Wing CC will use the bodies he's given to do this task for some more imperial function and will still snatch bodies from base IM to do details. Overseas, Postal is a HQ IM function. It shouldn't be. Any sensible analysis of this will result in taking postal away from the services and either extending the USPS to directly manage it, or hire contractors to do it. I'm talking personal mail here. Also, electronic communications, as they continue to expand in use and variety, will reduce the demand for paper correspondence. The master pubs library will go away. Official orders will migrate to a more logical owner--or will go away, replaced by a more modern equivalent.

- Will any duties expand? As address management and communications standardization efforts expand, IM's involvement may also--as addressed above. It's not clear yet that we'll be able to hold this ground, though. SAF is waffling "as we speak" over whether they really want IM to do Data Administration, Information Engineering, Enterprise Analysis, etc. These are functions in the main-line of IRM and CIM. Logically, they belong in IM, assuming IM can become IRM. SC would be able to do DA, but not comprehensive IE or EA, because those are IRM concerns and SC can't spell "IRM". Problem is, if IM is given those functions, IM will have to have a lot more resources--including more IRM- educated officers and enlisted IRM-technicians. So SAF is asking that hard question, "Can we get SC smart enough, and motivated enough, to do IRM functions, and keep from having to spend a lot of money on IM?" IM needs these new functions. It's our calling. I hope we get them, and the resources needed to do them. But if SC asks for it, SC will probably get it (which means you'll either be working in SC--or be driving a BITS truck).

(5) Does the present training provide the knowledge and skills necessary to meet forecasted roles and responsibilities? Not even close. The only "training" (actually, education) coming close is the AFIT IRM program, which is in danger of dying or getting severely whacked every year. CDCs may as well be teaching care of horses. Our folks need to become true IRM'ers. Their expertise should lie in: systems thinking; information processing; information technology; organizational behavior and development; communication/information theory; knowledge representation techniques; analytical methods; etc., not in clerkship. We should be big-picture people who understand the overall organization and know how to provide information solutions at every level.

E. Response 5

1. The present role of enlisted Information Managers is primarily a reactive one. Almost all the duties they perform are in response to an information need from someone else. Examples: 1) getting a regulation from the publications library, 2) creating or retrieving some kind of list, 3) typing and sending letters or messages, or 4) filing, accessing and retrieving information from a filing system. The majority of the information processing is done for someone else. Duties depend on unit's mission.

2. Automated technology has impacted information management in two very big ways. The first is speed. The time it takes to access, view, modify, and create information is rapid when compared to manual systems. The second is availability. This has the greatest impact on the way information is managed. It is now easily available to the actual user of the information. Instead of the IM'er getting, filing, typing, and sending, the actual user of the information (the civil engineer, pilot, commander) is willing to interact directly.

3. Automated technology will definitely have a future impact on Information Management. If you haven't heard or noticed, there is a great deal of organizational flattening (elimination of middle management) that is occurring in the Air Force as well as the civilian sector. The actual users of the information will have to be less reliant on others to be "in the know" and will have to access more information directly. We are already seeing an impact in the areas of correspondence management. Letters, notes, and messages are being created (and sent) without the extensive use of the IM'er. However, the primary impact for IM will probably be in the publications management area. The use of electronic forms eliminates much of the IM's activity and the on-line publications access strategies provide the users direct interface with the information they need. Electronic filing and other electronic records management concepts are following close behind.

4. In five years, I don't believe any of the traditional IM roles will be around. The exceptions may be a secretary to answer the phone (if we have phones) and staff support for the high levels of command. Presuming a computer on every desk, pubs and forms will be accessible by anyone, anytime, anywhere. Software will control the electronic filing and records management. Individuals will type their own correspondence and send much of it electronically. AUTODIN messages will be writer to reader (providing Defense Message System continues on current course). The Information Manager will

need to become an information resource manager. Instead of directly facilitating the information, the focus will be on being proactive (in contrast to the previous reactive role). Specifically, the IM'er or IRM'er will be involved in information needs analysis, information delivery system design, and development of strategies to ensure the available information matches the users information needs.

5. Present training does not provide the skills necessary to meet the roles I described in my responses to your questions.

F. Response 6

My first comment is based on your premise that the IM career field has changed dramatically over the past decade. In actuality, other than undergoing a name change, not much else has actually changed. We are still essentially an administration career field although we now have computers to help us perform our administrative tasks. We have not transitioned to true information management. Instead, we manage the technology associated with information management. We will continue to remain an administrative career field until such time as our senior leaders, both within and external to the IM community, actively accept the real concept of Information Management. Plenty of lip service has been given to this topic but real implementation has yet to occur.

My second comment is based on the purpose of your research. Your stated purpose is to "forecast the role and responsibilities of the IM enlisted force over the next five years." Have you talked to Mariam Bowser on the Air Staff? She recently sponsored a strategic planning conference that addressed this and other related issues. Your work may already be done.

1. The present role of enlisted information managers is still primarily staff support. Most of their time is spent maintaining paper files and publications, typing correspondence, and other administrative tasks. In a true electronic environment, only the maintenance of electronic records is important. Each user of an electronic system should be able to store and retrieve documents from a single, distributed electronic records system. It would be the information manager's responsibility to maintain this system and ensure user requirements are met. All types of information are included in a true information management system. It becomes the information manager's job to store the information and provide the information to whoever needs it at the time it is needed and in a format that makes the information usable by the user (data to information transition).

2. Automated technology has not impacted the way information is managed because we (the Air Force) have failed to accept information as a strategic resource. We are still operating in compartmentalized modes, not sharing information with others who may benefit from it. For the most part, the primary impact of automated technology is such that the management of information is now "Out of Control." By not having an established electronic records management system, we have no way to control what happens to information created by computer. Users create documents and store them on their hard drives or floppy disks. Although a requirement exists to create a paper copy of each document for archival purposes, most users fail to do so.

Therefore, we have no real idea about what information exists and where it is stored.

3. Automated technology will impact Information Management only if our senior truly embraces the ideas behind IRM. To date, all we've seen is a lot of lip-service. Institutionalizing IRM would enable an organization to take full advantage of its investment in automated technologies, allowing the organization to take full strategic advantage of its information assets. The best way to prepare our enlisted information managers to implement IRM is training. The Air Force needs to develop a program that provides training on a continuing education basis (such as the AFIT PCE program). This training must include technology advances, development of consulting skills, review of both IRM and IM programs, acquisition, ... We must also ensure our enlisted are technically competent to deal with these issues. The current requirements for entry into the 702XX career field are too low and must be improved.

4. If we institutionalize and truly implement IRM, we will no longer perform those "administrative" duties we've had to do in the past. Our role in data management and admin will grow considerably if the program is implement.

5. Our present training programs don't event come close to providing the knowledge and skills necessary to meet forecasted roles and responsibilities. A large number of persons in both the 70XX and 702XX career fields cannot even spell CPU. What to do to fix the problem? We must first get our senior leaders, both within and external to the 70XXX career fields, to realize the importance and potential benefits of IRM. We must also get them to realize that the name change from Administration to Information Management was not a cosmetic change but a change in roles and responsibilities. We can begin to address and correct our training problems as soon as everyone from the Chief of Staff on down understands the criticality of IRM and actively supports its implementation.

G. Response 7

1. I've read XXXXXXXX's comments and am almost in full agreement. I strongly agree that we have people leading our career area that either don't or won't try to comprehend true information management. I guess they feel more comfortable working mail or traditional administration problems. Gen McPeak obviously comprehends the value of information to combat mission accomplishment. As you probably know, he tasked AF/SC to standardize data and processes for the theater battlefield support systems. Does that sound like Data Administration walked out the IM door to anyone else but me? I have long maintained that if you don't do data administration, you can't do information management. Well enough of that...you want to know about enlisted information managers and their training requirements.

2. I can't agree with XXX that the enlisted 702s job is to store info and provide it in proper format to whomever needs it. They should do that....but that's a small part of their job. I maintain that there is no difference in IM job requirements between FAC1100 and staff support IM functions...other than scope. Its the basic systems model in both cases. The IMers job in any location is to ensure an efficient and effective flow of information throughout the unit, plus, and here is the kicker....They must be an integral part of their

unit's strategic planning! This means identifying and planning for strategic information requirements to accomplish the mission. They must also prepare the information section of the Mission Needs Statement as outlined in 57-1. They must also be responsible for their section of the information architecture and know how to access and use the overall information architecture. All of this is outlined in our draft AFP 4-23. That's a lot to expect from a junior NCO without providing significant training and education.

3. I believe IM will go nowhere towards a CIM environment without educating our 702 NCOs. Notice I said educate and not train; there is a difference. An IRM officer cadre can only do so much. We should design the strategic game plan but the NCOs must run the plays and make the touchdowns.

4. All of this mandates large education and training requirements at a time when the budget for these things is shrinking. We must attack the problem from multiple fronts. We have convinced the senior 702 enlisted managers that these things need to be done. That is why the 702 U and T conference is being held next week at Keesler AFB. At a minimum, I think we can get information requirements analysis (AFP4-23) included in the tech schools (intro for the young airmen, full throttle for the 7 levels). That is a start but we must also change our sourcing requirements. We can't continue to take cops who won't shoot guns, or failures from other programs our input raw material. We must also design and fund a formal education program for our mid-level and senior NCOs in the IRM disciplines. The Chief's are working with CCAF to do some of this but I'm envisioning an AFIT type course of study resulting in a bachelor's degree. We are fooling ourselves if we think we can progress with less.

5. I've heard some of our senior 70 officers claim that the course I've outlined above is expecting too much from SSgt Snuffy at Podunck AFB. I don't know about you but it makes me cringe to hear these comments. Given proper sourcing, education, training, and support, our NCOs are capable of tremendous accomplishments. We must rid ourselves of the old pare that officers have degrees and enlisted don't need them. At the mid-level and senior ranks our NCOs need at least a two year if not a full four year education in IRM.

Appendix B: Thesis Data from Enlisted 702X0 U&TW

- (1) What is the present role of the enlisted information manager?
 - What are the key responsibilities being performed?
 - Which of these are most important?
- The present role of the enlisted IM is to perform the traditional job of a records manager, files manager, admin comm, etc.
 - The key responsibilities vary by area of assignment.
 - The most important single responsibility we have is to train our people in new technology.
- Manages the life cycle of information management systems and provides technical assistance in areas of records, publishing, administrative communications, planning and programming, and office management functions.
- Primary role includes carrying out policies and procedures in publications, records management, administrative communications, and plans and programs.
 - They're all equally important and contribute to the mission.
- To assist customers in obtaining, disseminating, maintaining, retrieving, and disposing of information.
 - For most three- and five-level 702X0s, preparing performance reports, decorations, obtaining directives and instructions, maintaining office files, picking up correspondence, preparing and dispatching messages, tracking suspenses, and performing miscellaneous duties.
 - For seven-level, much of the same but the emphasis shifts to proofreading and quality control functions for other AFSCs and training. Organizing decision information.
 - Most important responsibilities:
 - Retrieving and disseminating information, preparing letters, messages, and performance reports.
 - Organizing information into concise decision-making formats.
- The present role of the information manager is to provide real-time information, in whatever medium, to users. Key responsibilities include, but are not limited to, maintaining, disseminating, and disposing of information, i.e., publications, forms, and those other "business processes" necessary to accomplish the assigned mission. All responsibilities are key to mission accomplishment; however, providing commanders with real-time information has to be paramount.
- The role of the enlisted information manager is to provide administrative support and services to the current organization; to manage information, regardless of the media, throughout its life cycle. These services may include but are not exclusive to:
 - (1) Typing/keyboarding
 - (2) Documentation management
 - (3) Publications and forms management
 - (4) Printing/duplicating service and support

(5) Mail services and support

-- The five functions above are a general overview of the enlisted manager responsibilities. Because the information management field is so general, it is extremely difficult to say that one duty is more key or important than the other. That would largely depend on the overall mission of the organization a particular information manager is assigned.

(2) Has automated technology impacted the way information is managed? In what ways has it impacted or not impacted?
If so, what has been the primary impact?

- Automated technology has definitely impacted the way information is managed by causing us to be more dependent on automation.

-- It has impacted us by giving us more time to do more. The way we measure our progress (i.e., graph, spread sheets, etc.) are a prime example.

- Enables us to retrieve information faster

- In what ways has automated technology impacted, not impacted the way information is managed.

-- Too much information made available in a disorganized manner, i.e., statistical, raw data requested without being organized in preset decision modules.

-- Increased capability to "fine tune", re-edit low value information to the point that over the last ten years we are spending more time "tweaking" products, i.e., EPRs, OPRs, awards, and decorations, action officer projects, etc., than in the past. Task discipline has decreased causing multiple redos.

-- When properly employed technology/software has improved creation/dissemination of information.

--- E-Mail, DMS, templates (like PerForm Pro), WISDOM compiling statistical data and project models.

-- Wide disparity in implementing/installing/training between organizations and command levels.

--- Often requires maintaining an automated and manual system caused by poor planning of resource allocations, i.e., most MAJCOMs are heavily automated whereas base-level units are not.

-Automation has impacted management of information dramatically. Information is collected, maintained, and retrieved in a matter of seconds versus hours, indeed days, that it took in the past. In fact, the importance of information has taken on a new complexion, mostly positive, since its availability comes faster and with relative ease.

-- Absolutely, not only in the military but in the civilian community as well. In fact automation has impacted the entire world.

-- Automation has changed the way we traditionally managed information or completed tasks. The personal computer has replaced the typewriter as the primary source of creating and finishing documents. This change has a positive impact because typing speed is not as critical on a PC because of the relative easiness of making corrections. One may also be more creative on a PC and provide a better product. Facsimile and E-mail is replacing traditional postal and surface mail. The impact is, less people is needed to process mail. Where there may have been several people working

in a mail room, a reduction in personnel occurs because of automated technology. This can also be said for automated records management systems; automated publications and forms management systems, and automated imaging systems. Automation definitely causes a reduction in manpower. It simply takes less people to do the job. Additionally, automation has impacted the information manager's job security. Realistically, 702s were not trained in automation. What we learned, we learned on our own. The powers to be at Air Force level decided to change Administration to Information Management. Not a bad ideal, but the Air Force failed to train the 702s to handle their new responsibilities. And at the same time, the Air Force reduced school house training, making it impossible to properly train information management.

-- Information management is still evolving. Many people believe it's a computer thing and believe information managers should be totally computer smart, without any formal computer training of course, and don't understand why we are not. Therefore, the impact is, enlisted information managers don't know what they are doing because they are not computer literate. When in fact, enlisted managers are not trained to be information managers (computer smart), but are still trained to be administrative specialists.

(3) Will automated technology have a future impact on IM?

- If yes, where will the primary impact be?
- How can enlisted IM personnel best be prepared?
- Automated technology will have an impact on the way information is managed.
 - The primary impact will be the use of that technology to improve the speed and flow of information.
 - The enlisted person can best be prepared by becoming better trained in the use of this new technology. They need to embrace the technology with open arms and learn to enjoy change.
 - Definitely will have an impact. Currently in publications mgmt. Education and training.
- Products
 - Converting print media to electronic duplication and dissemination.
 - Internal communication dissemination (base-wide).
 - Reduced paper and microfilm/microfiche storage and retrieval.
- Services
 - Creation/dissemination manpower (?) composition/BITS converts to updating maintaining policy, instructions on a base-wide LAN.
 - Provide information managers skilled in
 - Organizing information
 - Assisting customers in determining information needs
 - Controlling information flow
 - Defining architecture and assisting customers to determine their information architecture.
- How to be prepared
 - Increase knowledge of software applications
 - Increase knowledge of strategic IM planning
 - Begin to understand the principles of functional process improvement

-- Understand and employ how to identify information needs and analyze those needs.

- Yes! Unlimited. No single area of IM will go untouched. A combination of training in the traditional and the future will best prepare our EMs. Key to this training is not to make IMers replacements for SC'ers but an understanding of concepts, and principles of automation and how these concepts and principles play in a new, refined IM role.

- Yes, the primary impact will probably be in training, or better yet, lack of training. IM will probably change to Information Resource Management (IRM) or Computer and Information Resources Management (CRM), or some other title that fits into the world of automation. Each name change brings with it new definitions for information management and new automated systems. Automation impacts the entire Air Force or as I stated before, impacts the entire world. There is no way it can't impact IM.

- Enlisted IM personnel can best prepare themselves by taking advantage of any and all computer classes that come their way. They should consistently demand computer training from their bosses and supervisors. They should press for formal Air Force training from technical schools and commercial training. Finally, they must be willing to make some self sacrifices to obtain the necessary training from night classes and college courses.

(4) Will any present duties and responsibilities disappear within the next five years?

- If so, which?

- Will any duties expand?

- A number of our present duties will change or disappear within the next five years.

-- We are seeing administrative orders being delegated to the section. PDO will also change dramatically. They may still exist in five years, but with electronic forms and pubs accessible by the LAN, they will not recognize their job.

-- The duties that will expand will be those related to the computer. Hopefully, we will be the manager of many of these programs.

- Disappear

-- Posting publications by all personnel

-- Keyboarding information for customers (reduced)

-- Staging information (reduced to permanent records)

- Expand

-- Controlling information

-- Defining information needs

-- Organizing information for easier decision-making

- Yes. Publications and forms as we know them today will change dramatically. Despite the beliefs of many, these two tools will not totally disappear, but rather become new and completely different through the use of computerization - much in the form of what is transpiring with E-forms today.

- I wouldn't say present duties and responsibilities will disappear, the mission of the organization will determine that, but, I would say present duties will be

completed in different ways. As far as duties expansion goes, I'm sure we will see some expansions because the Air Force is down sizing and more AFSCs are combining and more activities are decentralized. This will certainly have an impact on IM because we, along with everyone else, will be expected to do more. We will be expected to do more with less because of automation and will be expected to know and keep up with automation.

(5) Does present training provide the knowledge and skills necessary to meet forecasted roles and responsibilities?

- Present training does not provide the knowledge and skills necessary to meet forecasted roles and responsibilities. We need to budget now and train now if we expect to keep up with the changes.

- Not yet, but we are working on it.

- What are our forecasted enlisted roles? Have they been determined by our senior leadership?

- No, but we're fixing that now.

- No! The Air Force, in its infamous wisdom, has decided that there aren't any enlisted jobs in the Air Force that require a college education for enlisted members. Unless we change this paradigm and the perception that anyone regardless of training can be a 702, we will continue to have this problem.

Appendix C: Enlisted Roundtable Discussion

(1) What is the present role of the enlisted information manager?

- What are the key responsibilities being performed?
- Which of these are most important?
- Wide, diversified field that has history in manual, office manager role who controls the information flow, runs the office, picks up miscellaneous requirements to keep the office running properly
- Focused on the manual way of keeping the office running. Traditional office manager
- In transition phase, need to get out of old stereotypical role
- Trying to get into technological age with few dollars to do so, particularly at base level
- Tend to manage objects, rather than the processes
- Goal still to manage information
- Haven't planned for the change to the technological era, need to plan in order to acquire the new tools to do the job
- Diversity between units, need collective thought process on what our role really is
- Way in which we manage information needs to be the same throughout the Air Force, otherwise Commanders will still consider us to be the gophers for coffee, supplies, etc.; need to change the mentality of the "leadership"; define where we are from the top and then funnel down to the lowest levels.
- This would help eliminate a lot of confusion by having a clearly defined charter
- Lack of identity among 702s; no common core; need to pull together more; as group not on cutting edge of technology
- In Space Command so far ahead of everyone else, impossible for others to catch up, because of lack of funds
- Not an equitable sharing of technologies among all the Commands, across the board
- Need to come up with standard way of doing things, standard architectures, and the necessary support and work from the top
- Enlisted folks can input, but the decisions are made at the top with the O-6s and Mr McCormick; will never happen?

- On other hand, start at the bottom, teach the students, give the new people the foresight for the future, encourage them to go out and make recommendations on how to improve the way we do business
- Training dollars not there to do an adequate job
- Tremendous problem with marketing ourselves, we don't do it; are just now beginning to identify with "Information Management" which changed in 1986.
- Have been typically labeled as the community that has a million reasons why you can't do something, held the role as a sheriff with a badge, not a customer service badge; we don't respect ourselves, so how can we expect others to do so
- Need to take advantage of the schoolhouse, but mid-level supervisors need higher opinion of themselves. They need to get on the bandwagon and realize that the world is changing. Problem exists with low esteem of mid-level. Responsibility of Chiefs to carry on and preach the true role and responsibilities to the troops. Commanders hear the new mission from Col Pardini at the Base Commander's course.
- Senior enlisted have not stepped up to the challenge; must get into the laws, understand the policies. Go after the training bucks, find out where the training sources are.
- Still needs to be done at the top; senior folks need to be fighting for its importance. If IRM is the way to go, then develop a plan for getting there complete with the funding to do so.
- Graphics and Information Resource Center. Why to go to MWR? We should be the lead in all of those aspects because it is part of the life cycle management of information.
- Are people in field given an opportunity to voice their opinions and concerns and feel they are going to be listened to?
- Yes/No, decisions were made from the top based on manpower determinants. Community needs to get in lock-step on attitudes and new programs (i.e., data management). We say we want new programs but refuse to accept the new responsibilities. Cops and cooks have changed their identity; why can't we?
- Senior IMs need to ensure that information on critical programs and meetings is shared. Don't keep the folks in the dark. Sharing is not happening in many cases. Good example--the Roundtable.
- IRM graduates not being efficiently utilized; some making big contributions in some commands, others not so much so.
- Functional positions encumbered by DoD civilian employees; they do not share information with the military.
- Losing a lot of the senior enlisted positions to civilian

- Use the CIM-Net to voice concerns and ideas if you can't get ideas forwarded within your Command and Base. Schoolhouse not on the network; send CC copies of only those messages that pertain to them.

(2) Has automated technology impacted the way information is managed?

- In what ways has it impacted or not impacted?
- If so, what has been the primary impact?

- Impacted in some good ways and some bad ways

- Always coming up with a better way, always learning something new just about the time you get to know the old; can have negative impact due to frustration level, never feeling competent.

- Isn't evolution good? Yes, if it is standardized across the Air Force. Never know which technique you are going to use. AForms/ PerForm Pro (example). Sometimes put automation ahead of the process. Should really be addressing the information, not the form.

- Technology changing so rapidly that training can't keep up

- Confusion among the Chiefs as to whether we just place information on the form, or whether we should know and control the process of actually understanding where the information comes from and where the data enters the system and exists. Data integration and data administration: whose responsibility is it?

- Some thought yes, others no

- Don't tell the customer they can't do something; tell them how they can better manage their information

- No standardization, no training, no equipment provided--just expected to turn the system on and make it work; no planning to get the system

- Personal preferences tend to create a waste of money and resources when it comes to software selection

- Are there any disadvantages to automation?

- We love to automate our own inefficiencies; emphasis should be on defining the product (discussion on computerized telephone answering machines). A simple question can never be asked, because customer is never allowed to speak to a person, only given programmed answer from a computer.

- Too much information available but information requirements are never defined

- We own process; need to focus the attention back on the customer.

- No longer the inputters of information, but now the facilitators of economic use of information.

- Explosion of information with no control of it; we need to stand up to it; have begun this week by establishing emphasis in training.

(3) Will automated technology have a future impact on IM?

- If yes, where will the primary impact be?
- How can enlisted IM personnel best be prepared?

- Need to look at other things that are going on within the AF for the IMs to get involved with

- Need to look at how automation can improve quality of life for the customers

- IM really needs to be impacting automation, not vice versa

(4) Will any present duties and responsibilities disappear within the next five years?

- If so, which?
- Will any duties expand?

- How information is distributed will change; use CD-ROM (compare costs with paper equivalents)

- If we don't keep up with the civilian sector, won't have jobs in future

- Caution to MAJCOMs not to move out too quickly in separate directions. Don't spend too much money on system that will be outdated in just a couple years.

- Too many uncertainties at present on what systems will be used between the services at DoD level.

- Capability exists today to accomplish IM-Net which would bypass the need for CD-ROM, link users directly to data base.

- Look at long-term paybacks (capital payback programs)

- Publications, postal, library

(5) Does present training provide the knowledge and skills necessary to meet forecasted roles and responsibilities?

- Too easy to get caught up in technology, without knowledge of processes--what customer wants to do--focus on moving of information.

- Background of tools makes it easier to understand SC and allows the IM to address relevant questions without simply being dictated to.

- Recommendation that IRM graduates provide training tools to the field.

- Surprising that the schoolhouse isn't kept informed of changes in progress; need to be kept in touch so that changes to the curriculum can be planned well in advance of actual implementation in field.

Appendix D: Field Survey



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE




20 MAY 1993

FROM: SAF/AAI
1680 Air Force Pentagon
Washington DC 20330-1680

SUBJ: Future Roles Assessment Survey for Enlisted Information
Managers

TO: Survey Participant

1. Under our sponsorship, Captains Mary Duncan and Ted Roberts are conducting research on the perceived future roles and responsibilities, as well as training needs, of enlisted Information Managers.
2. Please take the time to complete the attached survey to determine the future roles and responsibilities of enlisted Information Managers. If the data gathered from survey responses is found to be significant, it will influence development of a comprehensive educational program to ensure qualified personnel capable of meeting future mission requirements.
3. Your individual response will be combined with others; it will not be attributed to you personally. Your participation in this survey is voluntary, but we encourage you to take the time to be part of this important research. We would appreciate receiving your response by 1 July 1993.
4. If you have questions, please contact Major Steve Teal, DSN 785-7777 (ext 3352). Thank you for your participation.


KEVIN A. COLLINS, Colonel, USAF
Acting Director of Information Management

- 2 Atch
1. Questionnaire
2. Return Envelope

**Future Roles Assessment Survey
for Enlisted Information Managers**

The authors of this survey thank you for your participation. Data collected will be used in support of a Master's thesis at the Air Force Institute of Technology (AFIT). This survey is organized into three parts: Part 1-Demographic Information; Part 2-Vocabulary Terms; and Part 3-Functional Issues. Please follow the instructions at the beginning of each section.

Part 1-Demographic Information: This section asks for background information. Answers to these questions provide demographic data information about survey participants. The survey is confidential.

Instructions: Please circle the number of the appropriate response and fill in the blanks as needed.

1. What is your current rank?
 - 1 Airman
 - 2 Airman First Class
 - 3 Senior Airman
 - 4 Staff Sergeant
 - 5 Technical Sergeant
 - 6 Master Sergeant
 - 7 Senior Master Sergeant
 - 8 Chief Master Sergeant

2. What is your skill level?
 - 1 3 - Skill Level
 - 2 5 - Skill Level
 - 3 7 - Skill Level
 - 4 9 - Skill Level
 - 5 0 - Skill Level

3. What is your major command?
 - 1 Air Combat Command (ACC)
 - 2 Air Training Command (ATC)
 - 3 Air Mobility Command (AMC)
 - 4 Air Force Materiel Command (AFMC)
 - 5 Air Force Intelligence Command (AFIC)
 - 6 Air Force Space Command (AFSPACECOM)
 - 7 Other_____

4. What organizational level are you currently assigned to?
 - 1 Unit-level
 - 2 Base-level/Wing-level
 - 3 MAJCOM-level
 - 4 Other_____

5. What is the nature of your current position?

- 1 Functional Information Management (IM)
- 2 Executive Support
- 3 Information Resource Management (IRM) Support
IRM is the management of all aspects of the information
life-cycle, to include hardware, software, procedures, data
and information management personnel.
- 4 Other_____

6. How would you best characterize your role as an Enlisted Information Manager in your present position?

- 1 Clerk
- 2 Consultant
- 3 Technical Advisor
- 4 Manager
- 5 Other_____

7. Project the optimal future role of the Enlisted Information Manager.

- 1 Clerk
- 2 Consultant
- 3 Technical Advisor
- 4 Manager
- 5 Other_____

Part 2-Vocabulary Familiarity: This section inquires as to your familiarity of specific terms and programs relevant to the Information Management career field, as well as how this familiarity was acquired.

Instructions: Provided below is a listing of key terms. Please select your level of familiarity with each term by using the numerical key [1 2 3 4] as outlined below. Then, if you are familiar with a term, select the means by which you acquired your knowledge on the subject by using the alphabetical key provided [A B C D E]. If you select Option [1] for *Degree of Familiarity*, do not select an option for *How Knowledge is Acquired*. Please select the best response for each term and circle the appropriate number and/or letter.

Degree of Familiarity

- 1 - Completely unfamiliar with this concept.
- 2 - Somewhat familiar with this concept; heard or read about the concept in passing.
- 3 - Fairly familiar with this concept; understand definitions and context used within the Air Force.
- 4 - Very familiar with this concept; can discuss the topic fluently.

Where did you acquire this knowledge?

- A - Formal Air Force education.
- B - On-the-job training.
- C - Degree-awarding education program (CCAF, B.A., M.S., etc.)
- D - Interaction with other Information Managers.
- E - Personal reading/research.

Term	Degree of Familiarity	Knowledge Acquired
Information Resource Management (IRM)	1 2 3 4	A B C D E
Corporate Information Management (CIM)	1 2 3 4	A B C D E
Business Process Re-engineering	1 2 3 4	A B C D E
Information Resource Center	1 2 3 4	A B C D E
IM Strategic Plan	1 2 3 4	A B C D E
Information Needs ID and Analysis	1 2 3 4	A B C D E
Information Flow	1 2 3 4	A B C D E
Information Engineering	1 2 3 4	A B C D E
Data Administration	1 2 3 4	A B C D E
Document Imaging	1 2 3 4	A B C D E
Electronic Data Interchange (EDI)	1 2 3 4	A B C D E
DMRD 918: CIM	1 2 3 4	A B C D E
Defense Business Operations Fund	1 2 3 4	A B C D E
Integrated Computer-aided Mfrg Definition Language (IDEF)	1 2 3 4	A B C D E

Part 3-Functional Issues: The following section asks for your attitudes on current and future functional IM issues, as well as the best method for training on future roles and responsibilities.

Instructions: Listed below are responsibility statements which are grouped according to specific functional Information Management areas, as defined by AFR 39-1; AFR 4-1; and IM-21, Information Management Strategic Planning for the 21st Century. Within each grouping by area, statements are further divided into three categories -- current, future and training.

Please determine how closely the statements marked current depict the present function within your organization using the numerical key [1 2 3 4 5] outlined below. Simply circle your selected response. Then, determine how accurately you feel the statements marked future represent the future of IM, again using the numerical key [1 2 3 4 5]. Finally, recommend the most appropriate method of training for the needs outlined in the statements marked training using the alphabetical key [A B C D E] outlined below. At the end of each functional grouping is space for comments you wish to make. A page is also provided at the end of the survey for any additional comments.

Current and future rating scheme:

- 1 -- Completely unfamiliar with this concept.
- 2 -- Concept familiar, but not enacted within my organization.
- 3 -- Concept familiar; organization recognizes importance, but not yet enacted.
- 4 -- Concept familiar; organizational steps in direction have been taken.
- 5 -- Concept is completely integrated; this is the way we do things.

Training rating scheme:

- A -- Completely unfamiliar with concept
- B -- Technical Training
- C -- On-the-Job Training/CDCs
- D -- Off Duty Education (Associate/Bachelor/Master Program)
- E -- Computer Aided Instruction (independent study)
- F -- Official Education (Air Force, DISA, DoD, etc)

Thank you for taking the time to complete this survey. Your assistance is greatly appreciated!

I. Forms Management	
<i>(current)</i> Acquires, updates and manually fills out AF and local forms. Determines requirement; creates and publishes local forms when needed. Maintains forms index.	1 2 3 4 5
<i>(future)</i> Forms are maintained on electronic media and are electronically linked to applicable directives, providing immediate assistance. Accountability is provided on forms field of central database. Completed forms published manually or by E-Mail. Updates provided via E-Mail or electronic media.	1 2 3 4 5
<i>(training)</i> Required training on use of software and database access. Train on FTP.	A B C D E
<i>(training)</i> Train on use of E-Mail.	A B C D E
<i>Comments:</i>	

II. Publications Management	
<i>(current)</i> Acquires and updates Air Force regulations in hardcopy. Maintains regulations index. Paper updates manually inserted into binders; obsolete pages discarded.	1 2 3 4 5
<i>(future)</i> Policy directives are maintained in central database and are invisibly linked to associated forms. Viewed electronically or can be printed. Updates provided via E-Mail or electronic media.	1 2 3 4 5
<i>(training)</i> Required training on use of updating software and database access.	A B C D E
<i>(training)</i> Train on use of E-Mail.	A B C D E
<i>Comments:</i>	

III. Records Management					
(current) Manages hard-copy records using a file plan created via Records Information Management System (RIMS)	1	2	3	4	5
(current) Identifies the need and processes the requests for miniaturizing documents on microform.	1	2	3	4	5
(current) Ensures that requests for information are processed in accordance with the Freedom of Information Act (FOIA) and the Privacy Act.	1	2	3	4	5
(future) Manages all records, to include electronic records, to ensure legal requirements for storage and disposal are met.	1	2	3	4	5
(future) Uses an automated system, such as Document Librarian, to track and file records created in an electronic environment.	1	2	3	4	5
(future) Use of an automated system to flag all Privacy Act data and electronic processing of FOIA requests via network links.	1	2	3	4	5
(training) Instruction on automated document management system and standardized processes for controlling electronic records.	A	B	C	D	E
(training) Knowledge of legal requirements in the life cycle management of information.	A	B	C	D	E
Comments:					

IV. Automation Requirements

(current) Software and hardware often are not appropriate to the processes they are supposed to enhance. Training is inadequate, and the vast majority of automated capability is untapped.

1 2 3 4 5

(future) Creation of a centralized database to increase the power and capability of IM functions. Administrative communications, records, forms, publications and much more stored electronically for easy access. Data is shared between various documents.

1 2 3 4 5

(future) Install systems and networks, to include running cable, connecting hardware and software, etc

1 2 3 4 5

(future) Manage networks and user requirements/capabilities to ensure optimal system performance and reliability.

1 2 3 4 5

(future) Involvement in critical decision-making groups (budgetary and systems requirements) to provide expert guidance on information needs.

1 2 3 4 5

(future) Participation in the coordination process during the developmental stages of all automated information systems (AIS).

1 2 3 4 5

(training) Technical knowledge ensuring the efficient use and implementation of automated systems.

A B C D E

(training) Awareness of legal requirements in the life-cycle management of information.

A B C D E

Comments:

V. Administrative Orders	
<i>(current)</i> Processes orders by request; issues tracking number and official authentication stamp. Maintains justification and documentation file.	1 2 3 4 5
<i>(future)</i> Decentralization of orders publishing and management responsibilities to units and functional agencies. Processing orders and coordination with appropriate agencies accomplished electronically.	1 2 3 4 5
<i>(training)</i> Training on required processing procedures and electronic capabilities.	A B C D E
<i>Comments:</i>	

VI. Combat Readiness and Support	
<i>(current)</i> Ensures that mobility taskings are filled, supplies are readied, and people are prepared for any deployment scenario.	1 2 3 4 5
<i>(current)</i> Reviews and updates contingency/disaster response plans to meet mandatory inspection criteria.	1 2 3 4 5
<i>(future)</i> Quantitatively evaluates support needs and supplies required to ensure adequate preparedness, and projection of necessary airlift requirements.	1 2 3 4 5
<i>(future)</i> Trains with operational personnel to ensure support plans are workable and meet the needs of the organizational commanders.	1 2 3 4 5
<i>(training)</i> Training on readiness techniques and plans development.	A B C D E
<i>(training)</i> Training on quantitative analysis techniques and formulas for projecting future requirements.	A B C D E
<i>Comments:</i>	

VII. Information Processing (CC Support)	
<i>(current)</i> As information is requested from customer, answers are simply created/provided with no thought as to why the information is needed.	1 2 3 4 5
<i>(future)</i> Analysis of the flow of information within the organization.	1 2 3 4 5
<i>(future)</i> Evaluates the customers' needs for specific data, and where data is found with special attention paid to data never used or unnecessarily duplicated.	1 2 3 4 5
<i>(future)</i> Evaluates and tracks requests for data to determine the customer's overall pattern of needs.	1 2 3 4 5
<i>(future)</i> Development of Information Resource Centers to consolidate access to products/services.	1 2 3 4 5
<i>(training)</i> Training in basic Information Resource Management (IRM) concepts, as well as information engineering techniques and database manipulation.	A B C D E
<i>Comments:</i>	

VIII. Administrative Communications	
<i>(current)</i> Customers place letters, awards, and performance reports into envelopes, or "Holey Joes," for BITS. Manually sorted and delivered.	1 2 3 4 5
<i>(future)</i> Automated networking allows electronic information creation and transfer. Facilitates a near-paperless environment.	1 2 3 4 5
<i>(training)</i> Training primarily on File Transfer Protocol (FTP).	A B C D E
<i>(training)</i> Training on electronic mail (E-Mail).	A B C D E
<i>Comments:</i>	

IX. Plans and Programs	
<i>(current)</i> Provides guidance to the customer on the "dos" and "don'ts" related to the management and processing of information.	1 2 3 4 5
<i>(current)</i> Analyzes the budgetary, manpower, physical, and system needs of the organization.	1 2 3 4 5
<i>(future)</i> Analyzes present processes to ensure that the needs of the customer are being met in the most efficient and effective way possible.	1 2 3 4 5
<i>(future)</i> Emphasis on the monetary values and costs involved when information is mismanaged.	1 2 3 4 5
<i>(training)</i> Knowledge of programs and concepts such as the Defense Business Operations Fund (DBOF), and their impact on organizations	A B C D E
<i>(training)</i> Training on ways to better forecast long-term needs -- strategic planning.	A B C D E
<i>(training)</i> Training on strategies for business process improvement and IDEF.	A B C D E
<i>Comments:</i>	

X. Communications Security	
<i>(current)</i> Manually prepare and monitor accountable control records. Control messages and other accountable mail from creation until destruction.	1 2 3 4 5
<i>(future)</i> Maintain accountable messages on central, indexed database which automatically displays outdated messages. COMPUSEC requirements provide auditability/controlled access.	1 2 3 4 5
<i>(training)</i> Required training on database access and manipulation.	A B C D E
<i>Comments:</i>	

Appendix E: Field Survey Open End Responses

001 Comments

Additional Comments - Currently the Tech School provides little benefit to trainees. Individuals are ruled through to meet quotas and are not properly trained. Either delete the Tech School or increase the time allotted for training.

003 Comments

Additional Comments - It is great receiving new AF computer programs, however, most of these programs are designed to run on computers with at least 386 microprocessors. All we have are Z248 and Z100's. Most programs will run on a Z248, however, it is extremely SLOW!

004 Comments

Additional Comments - The Air Force, as well as the DoD, is currently under extreme changes. These changes affect no single career field as much as the Information Management (702) AFSC's. During my short career, however, I have noticed the same problem within every organization. It would appear that no matter what the change (base closure, drawdowns, organization realignments) the IM is always the last person in the chain. During base closures, with the exception of security forces, IM is usually the last person to exit. The drawdown has given admin troops a ton of extra paperwork with less (doing more with less, I suppose). The preceding two observances are not the problem, however. The main problem is with realignments. It seems to me that no one within our top leadership inquires about the administrative repercussions of any decision. The easy part is deciding that something will change, however, the difficult part is the actual change. Those troops (IM) who must perform the actual change should be involved in the process.

005 Comments

#7 - (5 other) That is dependent upon rank, assignment, and mission of the organization to decorations, etc. Someone has to create graphs for presentations. Someone has to input information into databases. Does this mean that they are clerks? On the other level someone has to determine when and how these things are done. Does that mean they are managers? Someone has to have the knowledge as to the correct way of accomplishing something, or what software would be best; does that make them a technical advisor/consultant? In my experience sometimes one person can be doing it all. On the other hand if you have troops/manning to accomplish what you know needs to be done, is this the better definition of manager? The answer would be optimally MSGts through Chiefs would proportionately be mostly managers and Technical Advisors, who would have the practical hands on experience to train the younger/less experienced troops and manage those assets, as far as where they are assigned. Type of hardware & software

acquired. Technical Sergeants would be Trainers/Technical Advisor to a lesser extent managers and perform some clerical and consultant duties, and so on. To some extent these types of assignments would be dependent upon the individual. There is a wide disparity in practical experience and ability in the Enlisted Information Manager Field. The difference in duties at squadron level and IM level is significant, also at wing level as compared to working in say PDO. Or even software is different, at CE Wang computers are used, in many organizations it's IBM compatible.

Vocab. Familiarity: E Personal reading/research -- Interaction with Resource Managers.

Vocab. Familiarity: Business Process Re-engineering 1 to 2 -ACC Col Chapman gave speech on processes, where business could be improved by improving the processes involved, I understand this concept.

I. Forms Management (current) - Does this refer to AF Form 764A, if so we still do some of this. (Circled 5 and added) this is sort of a backup system.

I. Forms Management (Comments) - I really like computer aided instruction. It's dependent to some extent on reading skills. Some prefer an instructor. Training on use of E-Mail needed. Some aspects of using software to obtain forms leave room for improvement. Somewhere in the chain of events where disks are brought to PDO, and actual receiving of forms there could be improved. Based on 702's I'm familiar with I'd say. For me, computer aided instruction works for me. For most 702's a combination of a training class and OJT seems to be their preference.

II. Publications Management (Comments) - we are doing both posting indexes and it's maintained on electronic media.

III. Records Management (Comments) - we actually have RIMS, due to new personnel being unfamiliar with RIMS system; not able to get file plans at this stage. But this is just training to be accomplished.

IV. Automation Requirements (Comments) - our section has not received E-forms and program yet, in the only section where it was received (orderly room) it's not functional. Supposedly orders would be done on PC-III and transmitted electronically to finance etc., program not functioning on this base.

V. Administrative Orders (Comments) - SATO has a program for doing orders electronically that they wanted to test. PC III was supposed to accomplish this but it hasn't. Orders should be easy to do electronically providing basic knowledge of how orders are done is present.

VI. Combat Readiness and Support (Comments) - With a new wing mission, I think most organizations need to write new response plans.

VII. Info. Processing (Comments) - Organization of unlike parts, information flows widely differently from section to section.

VIII. Admin. Communications (Comments) - Awards and performance reports normally delivered personally.

IX. Plans & Programs (Comments) - Normally the commander, flight chiefs, and resource managers work these things. If you are saying there is software that does this we don't have it. We do have enable with its spreadsheet and D Base to assist in budgetary forecast.

X. Communications Security (Comments) - This is a really simple program. Can be taught in ten minutes or less.

Additional Comments - I imagine everyone's experience is different; but in my career most of the time I've had to learn the software programs from computer aided instruction, most often for one reason or the other there was never someone available to show me how to do it. So I have been able to work with that, yet there are some people that cannot grasp a program from the computer aided method and need to be shown, which I do when someone shows an interest. I think there is a wide variety of options in both software and hardware available. But a lot of the times I think the training is not adequate for many as some of these programs are not functional across the base; sometimes it is software problems, sometimes training deficiencies. An OCR (Optical Character Reader) can be used to scan multiple numbers such as stock numbers, TCN's, SPI's, etc., to databases, with probably not too much effort by program, if someone took the time to write it. I've worked in a lot of organizations, and more often than not as soon as I go to a new organization I have to learn new software. I'm comfortable with that, a lot of personnel are not. I do think that Information Managers need to be taught more about the basic operation of a computer, and software should be touched on, mainly operating pull down menus and tutorials. It would probably even be possible to use an OCR in PDO to scan receipt and distribution of Regulations and Forms. We have to be as smart as the software so training is definitely a priority in my own assessment of the limitations involved in implementing new programs. Some of the new terminology I am not yet familiar with, partially because of the great disparity in type of duties one would accomplish as a functional Information Manager as opposed to working at say IM or as executive support.

006 Comments

Organizational Level(4 Other)- Numbered Air Force.

II. Publications Management (Comments) - On required training on use of updating software and database access, we have our SC people who are presently updating software, we get updated forms, programs, etc. and they put it on the LAN.

V. Administrative Orders (Comments) - We have now been authenticating orders in our CCEA section, the forms are on our LAN system.

VI. Combat Readiness (Comments) - Our 702 AMOSS has already been doing these tasks.

007 Comments

I. Forms Management (Comments) - Currently using all forms on performs.

Additional Comments - Terms in part 2 should be defined for better assessment/familiarity, ie. northerners refer to soft drinks as "pop" while southerners say "soda".

011 Comments

V. Admin. Orders (Comments) - Orders Processing is decentralized to the users.

Additional Comments - Our organization is presently running two processes in most areas, manual and automated.

Pubs Mgt. - using CD-ROM and tower, however Pubs are still printed in paper copies also.

Forms Mgt. - forms are printed in paper copies and are available electronically and can be used over the LAN.

PDC - using PDOS and are currently printing on demand.

Records Mgt. - using RIMS. Training is ongoing for RM and FARM's in the HQ.

Admin. Comm. - orders process automated via electronic forms use & electronic interface with finance - process recently completely decentralized.

Plans & Programs - HQ 702XX vacancies announced via electronic bulletin board on LAN.

New equipment list being worked for UTC's. Goal is to have deployed IMS/MSI, under RARAB set up a LAN with electronic pubs, forms, RIMS and E-mail.

022 Comments

I. Forms Mgmt. (Comments) - In order for the future to exist, IM personnel need to be trained in the present, not just at HQ levels, but all levels.

II. Pub. Mgmt. (Comments) - A very good future program if all levels are trained and kept informed.

026 Comments

VI. Combat Readiness (Comments) - Training should be incorporated into CPC's.

VIII. Admin. Comm. (Comments) - Provide an introduction at Tech School will follow-on training provided through OJT.

IX. Plans and Programs (Comments) - Introduce at Tech School follow-on through CPC/OJT.

Additional Comments - A lot of training should be accomplished at Tech School versus in the field. Computer aided instruction courses may be fine but we are seeing a lesser quality Information Manager being sent out from Tech School. Much of what is "taught" at Tech School is being retaught in the field. This is largely due to an accelerated graduation process. This will ultimately hurt the field units by providing training on what is covered by Tech Schools. My previous office received three "3 Levels" who went through this system. While all three were self-driven to perform at their best for putting out quality products they couldn't due to the "inadequate" training they received at Tech Schools. Again, CAP courses are great but only for certain topics. They should be "followed-up" with classroom lectures. I know the supervisor is ultimately responsible for providing training once the trainee arrives but give us something more than one who only recognizes words.

027 Comments

IV. Auto. Require. (Comments) - I'm for everything listed in the future categories. Our unit only has PCIII, limited records storing and no forms/pubs capabilities.

V. Admin. Orders (Comments) - Orders at unit level are done manually - we don't have approval authority. Done by personnel specialist in orderly room, TDY's only.

VI. Combat Readiness (Current - Mobility) - What does this have to do with admin?

(Current - Reviews) - I've never done any of this.

VIII. Admin. Comm. (Future - Auto. Networking) - Sounds good.

X. Comm. Security (Comments) - (Future) NOT good idea for classified material. Reason: computer data bases are too easily accessible by "Hackers" or enemy intelligence.

036 Comments

Additional Comments - I rushed over your survey because of time constraints. Most of my training has been from self-study, due to the fact that the training that I received in "Tech School" was some time ago and my career field has changed so much since then. Often times we (702s) find ourselves thrust into new positions or jobs that require us to

learn a seemingly different field. Personally, I feel that this far in the game there should be a refresher course (correspondence, "tech-school", or classes given by the base IM) to catch us up to the current technology that is making our jobs easier. Otherwise, how could this technology make all of us more efficient info managers when there is no knowledge of how to use them and/or the time to learn on our own? Once again it is only by extensive self-study that I am as capable as I am. As I travel from base to base (TDY, PCS) I find that I am way ahead of my peers. There is something wrong with that picture.

046 Comments

4. Organ. Level - 4 Other: Flight

Part 2: Vocab. Familiarity - I have not heard of these terms. They are not what we would use in the day-to-day operations. It is difficult getting information down to the flight level. People will make the decision, in the chain of command, that we (IM's) don't need to know. Prime example is the new message program. I found out just by overhearing a couple of Comm. personnel. The information flow is NOT good. Here is another example of the IM Committee not being kept informed is when Air Force went to PD & I publication they came in the Publishing Bulletins first. We did not know what these designations meant because nothing was sent down to the lowest level. How can people make decisions in the lowest level without that kind of info.? The change affects everyone, just not IM, but all the rest of the Air Force Career field. But everyone is under the misconception that they don't need to know about information management and they are wrong. PLEASE call if you have any questions. I will help you in any way I can. (see page attached to survey)

I. Forms Mgmt. (Comments) - The use of software and database is self taught - no training within squadron.

II. Pub. Mgmt. (Comments) - Training - Zero!

IV. Auto. Req. (Comments) - For future improvement - money is always important, but the IM are at the bottom of list with commander's unless you have a commander who thinks it is important.

V. Admin. Orders (Comments) - It is not required in my position. But it would be nice to have.

VI. Combat Readiness (Comments) - These are done at a very high level and maintenance personnel do it at the squadron level. It is unusual to see an IM involved in the management of mobility support. Again the same misconception that we are not important.

VII. Info. Processing (Comments) - training -- HELP?!

VIII. Admin. Comm. (Comments) - no training.

IX. Plans (Comments) - no training.

X. Comm. Sec. (Comments) - no training.

Additional Comments - There is a lack of knowledge in the field about most of the programs you mention earlier in survey. I get AFRP4-1, IM. That does keep me abreast of what is happening but not earlier enough. There is also another problem that I'm sure is happening. If you mention something about computers & computer programs and new future systems to start planning money, it is not going to get to the right person to start budgeting it into the fiscal year budget. That's because if you don't have a strong IM in the chain of command in the squadron nothing will get done. Some senior IM's do not have the knowledge of what is require to keep senior management informed of the IM. Plus senior mgmt. don't know what to ask. In maintenance there has always been the problem with senior management not caring how the job gets done as long as it gets done. It has taken a long time to convince senior mgmt. in maintenance to come into the computer age. Another area of contention is record management, some senior manager s don't have the minimal knowledge of record mgmt. and have no inkling of wanting to. Just think of an IM who goes to a flight line office where the section chief has no ideas what he wants for a file plan. The senior IM in squadron is supposed to help, but nine times out of ten there is no help coming. It takes a lot of initiative of the young airman to get the knowledge required to do the job. It may sound like I'm complaining, but when I started working in this flight the line shop chief did not know how to draft a message, format a letter, post publications, or what a field plan was. No one in the squadron took the time. Senior IM didn't want to take the time. I was forever telling these shop chiefs to use the PFC Manual and AFP4-19. They know now what is required of them, but this is what is happening out in the field. More training is required in Leadership Schools about the things listed above. PLEASE call if you have any questions!

049 Comments

7. Future Role - (5 Other) Combination Technical Advisor and Manager of IM Resources and Training Manager once the role of admin. becomes decentralized by computer automation ie., LAN's, Work stations, etc.

056 Comments

VII. Info. Processing (Comments) - Training reflects how I was trained to process information.

VIII. Admin. Comm. (Comments) - We do not send awards or performance reports in "Holey Joes".

071 Comments

I. Forms Mgmt. (Comments) - Some offices have E-forms.

II. Pub. Mgmt. (Comments) - Currently squadron uses APMP programs.

III. Records Mgmt. (Comments) - Sounds like we're going into more computer utilization - great!

IV. Auto. Require. (Current) - (under numbers off to right) Correct, but doesn't fit your rating system.

IV. Auto. Require. (Comments) - The IM world is changing, not just because of more computer utilization. We need to train our people out in the field on new IM practices. Send us back to school; 7-level tech school.

VII. Info. Processing (Current) - Poor question 1 of course we know why we're acting data for troops, however, you ask your commander if he really needs this info he's requested and you'll be looking for a new job. Get real!

(Comments) - We don't analyze why commanders wants info., we get it. If we see a recurring need we make sure we get current data and update.

VIII. Admin. Comm. (Current) - Awards and EPR's don't go through BITS -- get a grip folks!

(Future) - I'd love it; but needs approval of CC's secretary. We've discussed it and have been shot down.

Additional Comments - With all the changes in IM, I can't stress enough the need for current training of 702's in the units. It's not coming, or flowing down -- if it's supposed to, from IM Base Level.

077 Comments

II. Pub. Mgmt. (Comments) - With current AF restructuring going on, and changes to the regulation designations (ie. AFI, AFD, AFSSI) and the changes in the numbering system, recommend waiting until all these changes are complete, should save a lot of money in disks. P.S. Will we be networked with the master pubs library?

VIII. Admin. Comm. (Comments) - EPR's and awards are had carried.

Additional Comments - I found this survey to be too broad and primarily focused on base info. mgmt. not staff support. The questioning was hard to follow and answers were even harder to apply to the question. I think your survey needs some work. I also feel that as the info. mgmt. career field evolves and the force gets smaller, commanders need. To work with supervisors to ensure their personnel are trained on how to use the programs which we as administrators use, ie. SARA Lite, APMP, RIMS, Perform PRD, Harvard Graphics. The old saying "I can't do that because I don't have an admin. troop" is not going to work.

085 Comments

2. Skill Level - Taking 7-level EOC in a week.

I. Forms Mgmt. (Comments) - Would benefit from structural go- no go training on Perform.

Additional Comments - I would like to see more info. flow from Base-Level to the units. I feel at Lowry there is a bottleneck at base-level. My seven-level CDC's describe Plans and Programs as much different than they are here. Also, don't believe we will lose "Clerk" title or being perceived as "Clerk". It's no wonder we're an underage, I know I wouldn't recommend the career field. You work your butt off and still get the impression the AFSC is nothing to be proud of.

094 Comments

I. Forms Mgmt. (Comments) - I've no idea what E-mail is.

Additional Comments - In my opinion, a lot of the AF forms are a waste of time. Putting them on computer is also a waste of time. There is no reason, other than tradition, of why we need to go through every Captain and Major to order a screwdriver, and there is also no reason, other than tradition, of why we need a regulation for everything. Tech school taught me nothing about my job. Half of the things in your survey we don't use on the job, and weren't even taught at tech school. To make the Air Force the best it can be we need to delete a lot of the things that anyone with common sense can see is a waste of time. I think another problem we are seeming to have are a lot of people who really shouldn't be here are here. A lot of people who make it through tech school barely make it through, that again is because of the extinct material we were and are being taught. Future roles and responsibilities should not even be thought about until we get our priorities straight. Our first priority should be to have the best people on the job. The AF says that's what they do, but too many people slip by. They also say they "Pay attention to detail", the AF hardly ever pays attention to detail. I'm a very proud member of the Air Force. I came in because I needed the college money, but I've found I really like to be a part of the armed services. But I've also noticed a lot of what the military does is redundant, reasonless, and time-consuming. I write these comments not only because I feel it's important to think about ways to make the AF better and more efficient, but also because maybe some serious action will be taken in updating tech schools for 702XX's. Hopefully, the future generation of airmen will be able to help the Air Force become what it can and really should be.

106 Comments

I. Forms Mgmt. (Comments) - If an official education team familiar with E-mail could be sent to the field, that would help!!

II. Pub. Mgmt. (Comments) - An initial team, familiar with concept and use, would help in training.

III. Records Mgmt. (Comments) - A one-time training from someone in "the know" would work.

V. Admin. Orders (Comments) - We have decentralized; but aren't up, electronically, yet.

VI. Combat Readiness (Comments) - Unless you're actually doing this job, no other training is necessary.

VII. Info. Processing (Comments) - More than one way of training should be required.

Additional Comments - As with any new computer program, extensive training should be required. Not just reading from books, but actual hands-on training. The E-forms program virtually had no training, and worse yet, the IM folks at PDO didn't have any knowledge of how the software used with E-forms worked. Make sure all the bugs are out of the system prior to sending it out in the field. We aren't computer experts and it shouldn't be expected of us.

Remember, although computers are everywhere these days, they are only about 10 or so years old and many people are "afraid" of them.

Thank you for giving me a chance to answer questions concerning my job!! (Followed by a smiley face.)

107 Comments

Additional Comments - As an Instructor at the Apprentice Info. Mgmt. Course, I am totally out of the loop as far as what is going on in the "Real" Info. Mgmt. world. As it takes a while to get an STS change, fast-changing issues take a while to reach our sheltered community. After our 4-year tour here, we're definitely going to need to be reintroduced to Info. Mgt. daily operations.

113 Comments

I. Forms Mgmt. (Current) - (5)We are moving away from doing it this way.

II. Pub. Mgmt. (Comments) - We are moving towards electronic media, however it's hard to teach old dogs new tricks, we need more help from our leadership in the IM world to influence the senior leadership at bases the importance of this issue.

III. Records Mgmt. (Comments) - As we automate we not only need training and technical support, we need to standardize. If hardware and software become standardized across the AF, we would not encounter huge "training curves" every time we PCS.

IV. Auto. Require. (Comments) - We need all the training we can get. Unfortunately we depend on one or two people that have a working knowledge of computers. The rest are basically ignorant to their use. I've talked to many people at other bases and this holds true

everywhere. It's a real shame that we have the means yet we can't get the hardware, software, nor training to really make an impact.

115 Comments

Additional Comments - As you can tell by this survey, training is a must. We as Information Managers don't know where we're headed. What is our future/responsibilities? Are we ready and capable to fulfill mission Req.?

130 Comments

First, I must inform you that your survey was misssent to the wrong APO-hope I'm not too late to participate. I appreciate the opportunity to speak my mind and hope that this survey results in desperately needed training for IMers.

I enlisted in 1978 and upon completion of basic training, immediately attended the Administration Management Technical Training School. I felt I was ready for admin Air Force wide. In 1983, I completed my seven skill level. again, the training was adequate and prepared me for the immediate positions I would hold.

Today, 10 years later, I've had no additional formal training provided by the Air Force. I completed my bachelor's degree in business administration. I have two associate degrees in administrative management and feel that I've stayed up with the latest in information management. However, apart from my off-duty civilian education, professional military education and the independent study I've completed using Air Force directives, my continuing job-knowledge education has been minimal.

In the face of draw down to small, quality forces and greater responsibility, the significance of increased training cannot be overemphasized. I've already witnessed the placement of Senior NCOs into positions previously held by junior officers. I believe this to be the wave of the future and fully support it. However, it becomes increasingly vital to ensure these folks are adequately trained. I'm not convinced that the only two formal courses currently available for complete job knowledge are enough. While I believe that the individual is responsible for ensuring he/she is in tune with changing direction, I also believe that this "self-study" needs to be supplemented with formal education to provide a consistency in philosophy/understanding.

A long-time goal of mine is to serve in the plans and programs function of MAJCOM Information Management. While I think my field experience could contribute to this type of function, I'm not sure if my education to date is adequate. I long for the time when NCOs can attend the master's program in Information Resource Management offered by AFIT. This curriculum coupled with a Senior NCO's field experience would provide an insight previously unequaled.

132 Comments

Additional comments: We need more training programs for the information management field so we can do our jobs more efficiently.

134 Comments

I. Forms Mgmt. (Comments) - All type of future forms management and forms themselves should be automated AF wide.

II. Publications Mgmt. (Comments) - I personally am computer literate and am familiar with different AF software but most 702's here are not.

III. Records Mgmt. (Comments) - My particular job has consisted mostly of staff support and I am not completely familiar with procedures on base.

IV. Auto. Requirements (Comments) - It is my assessment that all 702s need most important of all basic training on computer use, software installation and terms.

VI. Combat read. and Support (Comments) - I have no background or experience in mobility taskings.

VII. Info. Processing (Comments) - My opinion is currently IM are not given enough authority and respect to influence or make decisions on controlling or analyzing the flow of information. There is too much duplication.

VIII. Admin. Comm. (Comments) - The proposed future of Admin Comm is long overdue. This is important and should be implemented now!!

Additional Comments - I am not totally familiar with the proposed future of Information Management but I do know that complete automation with an almost paperless environment would dramatically enhance the productivity and quality of IM.

I believe that training in computer hardware and software should become a vital part of future technical training for IM. I believe that there are few computer literate 702s. By this I mean the concept of how to best make use of hardware's capabilities, what DOS means, etc.

I feel that all computers should be linked by a network so as to retrieve information when needed. I know orderly rooms have such capability, but all computers for each IM should be linked to every base. I have no idea if this is currently being implemented or what is currently available but automation and training air force wide is a must!

I also feel that all hardware should have the capability to process any program (at least 4MB RAM, 100MB hard drive, 3.5", 5 1/4" and CD ROM). Adding faxes and modems would be great too. Paintjet color printers and laserjet printers are also a must for everyone.

I'm sure by the 21st century we would have a lot of these methods if not all completely in place. Lets catch up to the private sector!

Thanks for making this survey available. I would hazard a guess that very few of your survey participants, including myself, are familiar with the programs you described.

140 Comments

Additional Comments - Most of the things listed in this survey I don't work with at all. It would be nice if some kind of document could be sent to IM specialists periodically to make them aware of changes in the career field.

141 Comments

I. Forms Mgmt. (Comments) - Everyone should be trained via Tech School, on all aspects of the job. Tech School shouldn't be self-paced.

Additional Comments - I feel 702s, fresh from Tech School, know less than I did when I graduated in '85. They need to go back to 6-week full courses without the option to fast track out. Also, the AF needs to use only one software program throughout the IM function. Valuable time is wasted training people when they go to a new base. Also, the AF could pay a person to go to school to learn new software, i.e.. Perform Pro, Sarah Lite, DBase, Micro Soft Words.

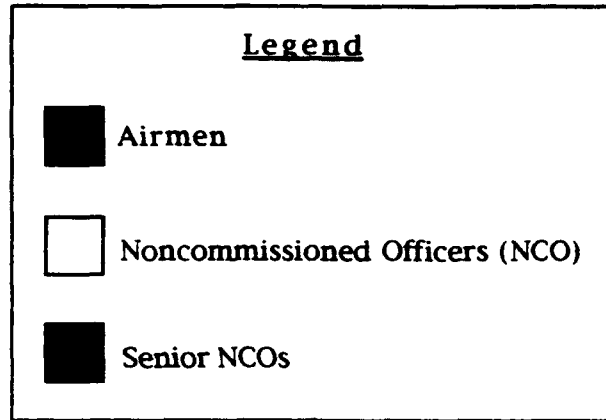
147 Comments

Additional Comments - I think it's a good idea to review the roles and responsibilities of 702s, but I don't think your "Current and Future Rating Scheme" worked well with future comments. The concept of most of the statements was familiar, but I think you should know smoothly and quickly.

Most, if not all, of the training should be technical training to make sure all of your questions get answered. I don't think the computer-aided instruction would work for the same reason. I think W-forms is a good example of that it was a sloppy transition because there was no training, people weren't getting information on time or at all, there just wasn't any guidance.

Appendix F: Breakout of Terminology and Topic Areas

The following is a legend for the graphs used in this section:



Information Resource Management (IRM). Surprisingly enough only 9 percent of respondents were very familiar with this term, whereas 31.7 percent described themselves as completely unfamiliar. The remaining 59.7 percent were partially familiar. Of those with some degree of familiarity the greatest percentage of individuals acquired this information through interaction with other information managers (36.4 percent) or through on-the-job training (28.3 percent). Figure F-1 depicts this overall breakout of responses.

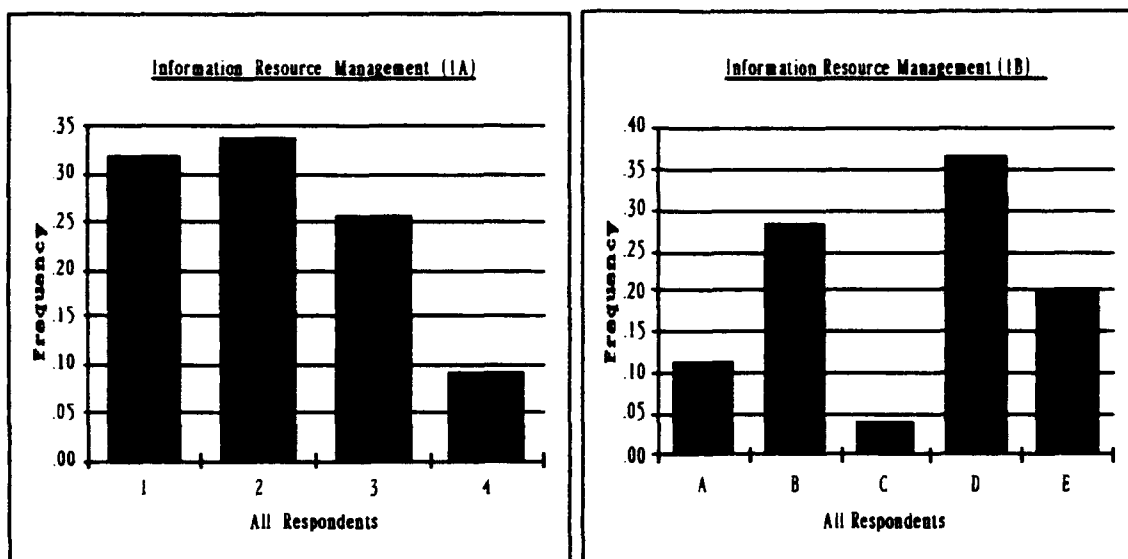


Figure F-1. Responses for Info Resource Management (Overall).

When the results are broken out by category, SNCOs are the most familiar with this term, followed by NCOs and then Airmen. This again follows the hypothesis that as an individual increases in rank, their familiarity and expertise on programs and issues also increase. Senior NCOs acquired their knowledge primarily through formal Air Force education, interaction with others, and personal reading/research (25 percent for each); NCOs acquired their knowledge mostly through on-the-job training, interaction with others, and personal reading/research (31.6, 38.6, and 21.1 percent). Results from Airmen are a little more evenly spread, however, the greatest percentage of 36.7 is via interaction with others. Figure F-2 shows the results by category.

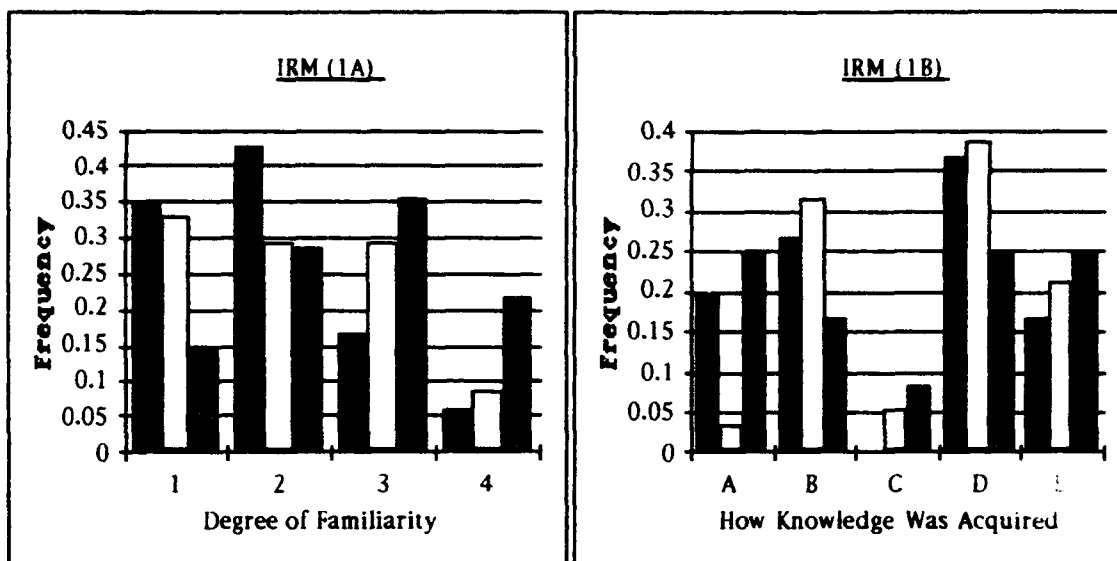


Figure F-2. Information Resource Management (IRM) Familiarity and How Knowledge Acquired

Corporate Information Management (CIM). Overwhelmingly, 69 percent of the respondents were totally unfamiliar with this program. Only 30.3 percent were partially familiar. Accordingly, the majority of those who were familiar acquired their knowledge through interaction with others and personal research (66.6 percent total). Figure F-3 shows the overall results.

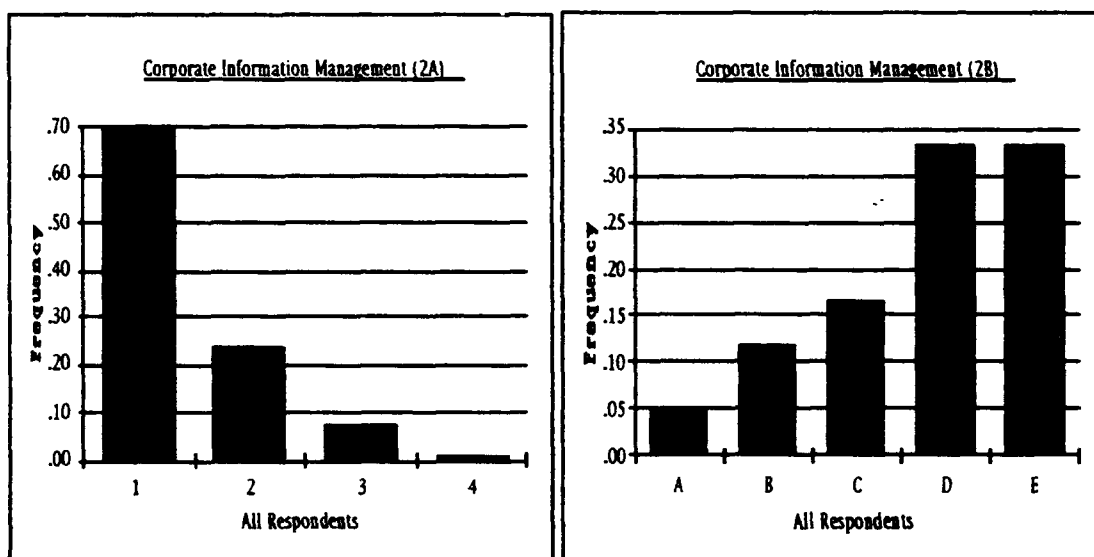


Figure F-3. Responses for Corporate Info Management (Overall).

When analyzing the results by category, 42.9 percent of SNCOs were totally unfamiliar with this program, compared to 73.2 percent of NCOs and 69.4 of Airmen. The only individual who was very familiar with this topic was a SNCO. This difference in familiarity levels was found to be significant when running the Fisher's Exact Test with a resulting probability of .013. This means that the category of rank does determine how a respondent would answer a particular question. SNCOs acquired their background through degree-awarding education programs, as well as interaction and personal study (37.5, 37.5, and 25 percent). NCOs reported the same modes of acquiring knowledge, with the greatest percentage being through personal study (40.9 percent). Fifty percent of all airmen respondents acquired their knowledge through interaction with the remaining 50 percent equally divided between on-the-job training and personal study. Figure F-4 reports the results by category.

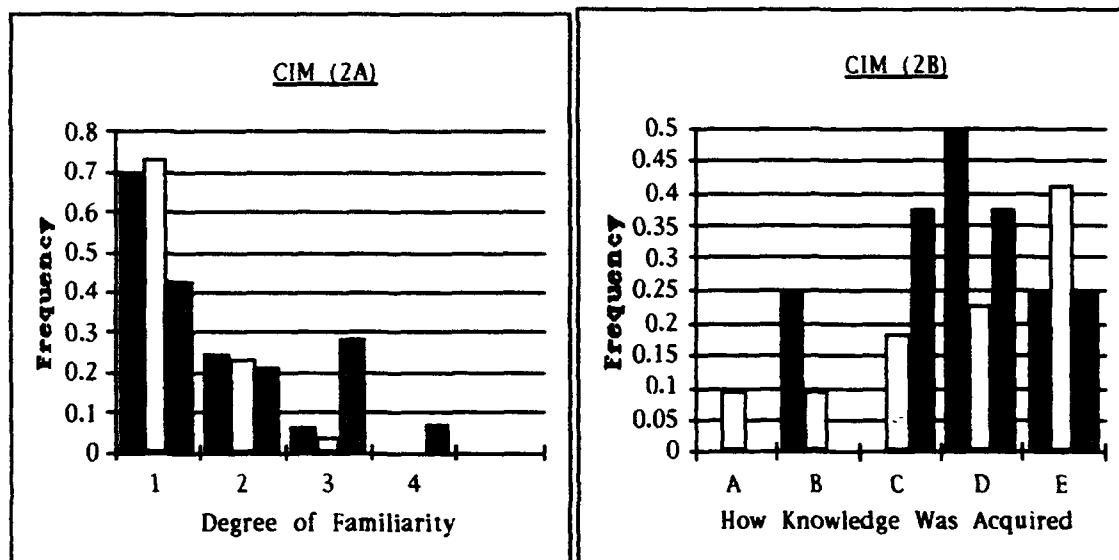


Figure F-4. Corporate Information Management (CIM)
Familiarity and How Knowledge Acquired

Business Process Re-engineering. Once again, overall results showed that very few individuals were at all familiar with this topic. Only one

respondent was very familiar with business process re-engineering. Those few that were familiar obtained their knowledge for the most part from either degree-awarding programs (20 percent), interaction with others (40 percent), and personal study (25 percent). Figure F-5 graphically portrays the overall results.

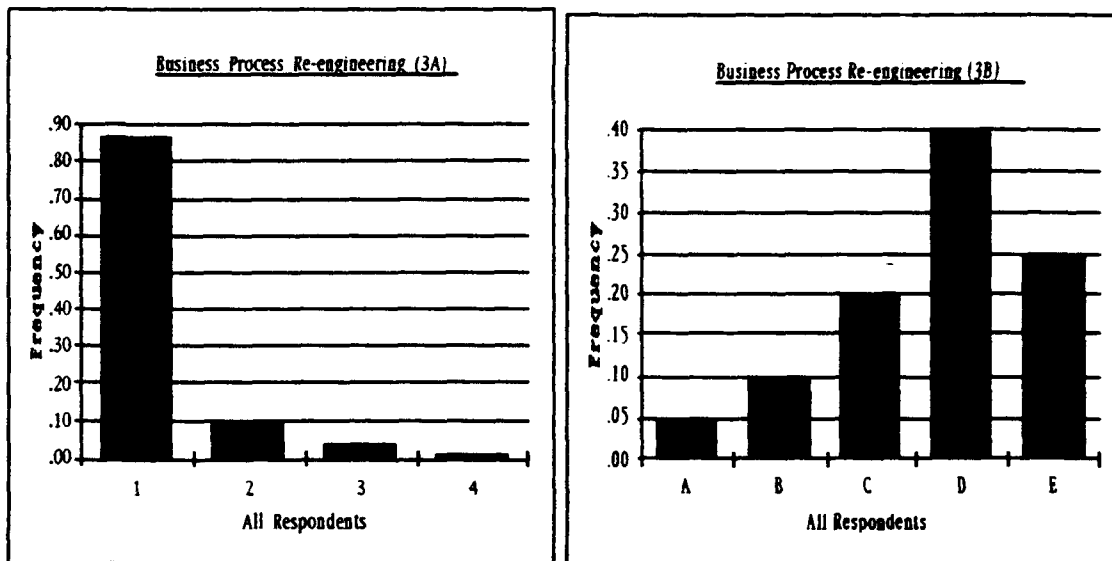


Figure F-5. Responses for Business Process Re-engr. (Overall).

When analyzing the responses by category, the knowledge level again rises with rank--only 8.2 percent of Airmen had a small amount of familiarity, 14.7 percent of NCOs had some degree of familiarity whereas the percentage increased to 28.5 for SNCOs. The means for acquiring knowledge were pretty evenly dispersed across the categories, except that only NCOs noted the modes of formal Air Force education and on-the-job training. Figure F-6 portray results by category.

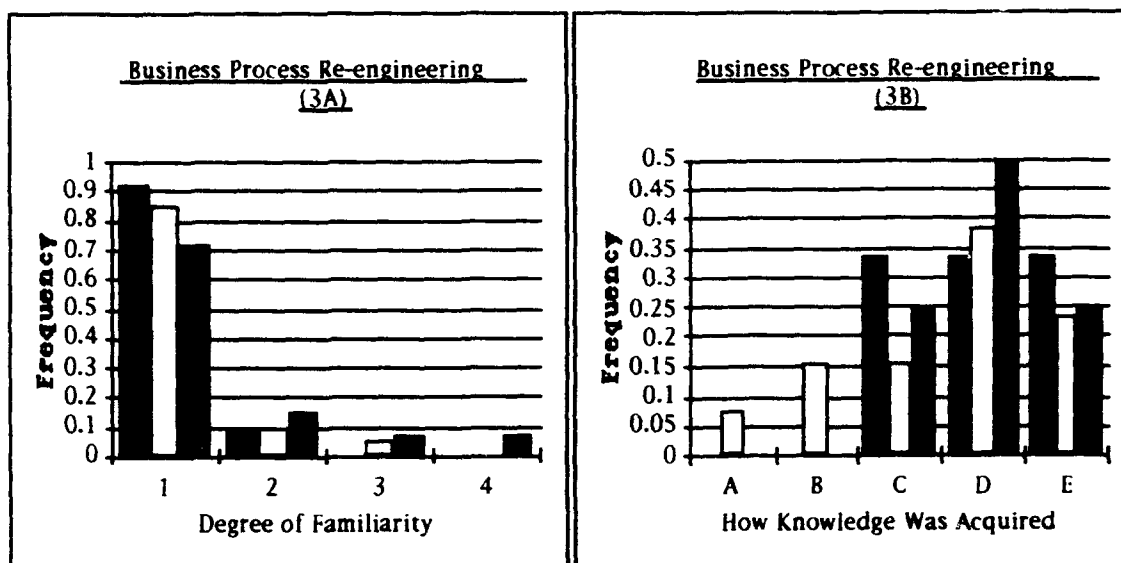


Figure F-6. Business Process Re-engineering
Familiarity and How Knowledge Acquired

Information Resource Center. For this topic, a greater percentage of individuals had some degree of familiarity--55.8 percent--as compared to 44.1 percent with no familiarity at all. Respondents acquired knowledge via all modes, but the greatest percentages occurred for interaction with others and personal study (39.7 and 26.9 percent). Figure F-7 depicts overall results.

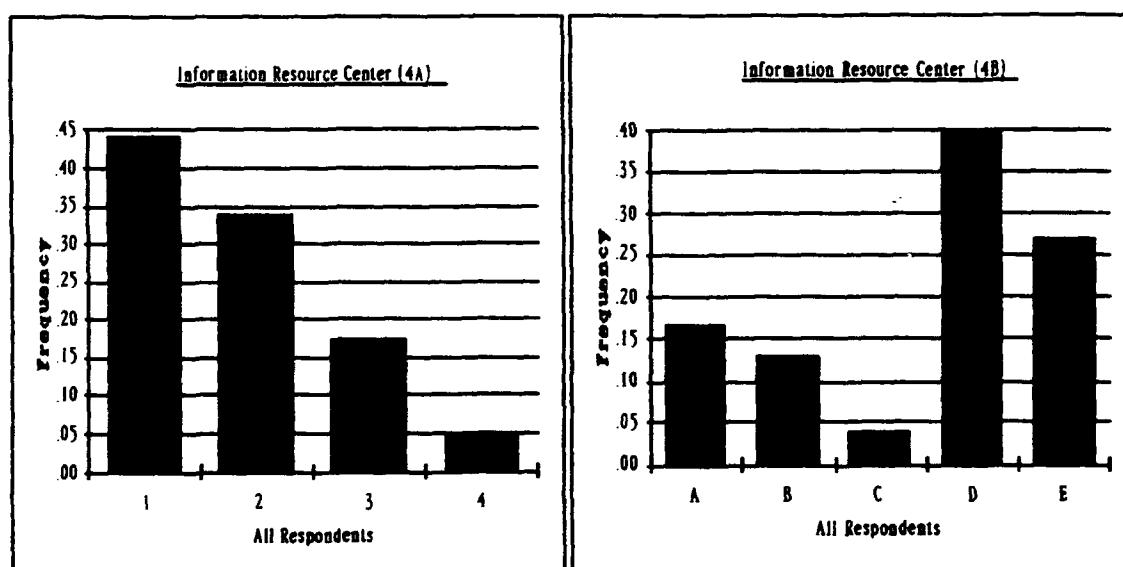


Figure F-7. Responses for Information Resource Center (Overall).

When looking at the differences between categories, once again NCOs had a greater percentage of individual respondents who were totally unfamiliar with this topic (48.8 percent versus 44.9 percent). SNCOs again had a much greater familiarity with this subject with 85.8 percent of individuals having some degree of familiarity. The differences in familiarity levels were found to be significant when running the Fisher's Exact Test with a resulting probability of .0079. Among those SNCOs, 50 percent had acquired this knowledge through interaction with others. This compares with 41.6 percent for NCOs and only 32 percent for Airmen. The mode of acquiring knowledge most frequently selected by Airmen was personal study with a 36 percent rate. Figure F-8 shows the results broken out by category.

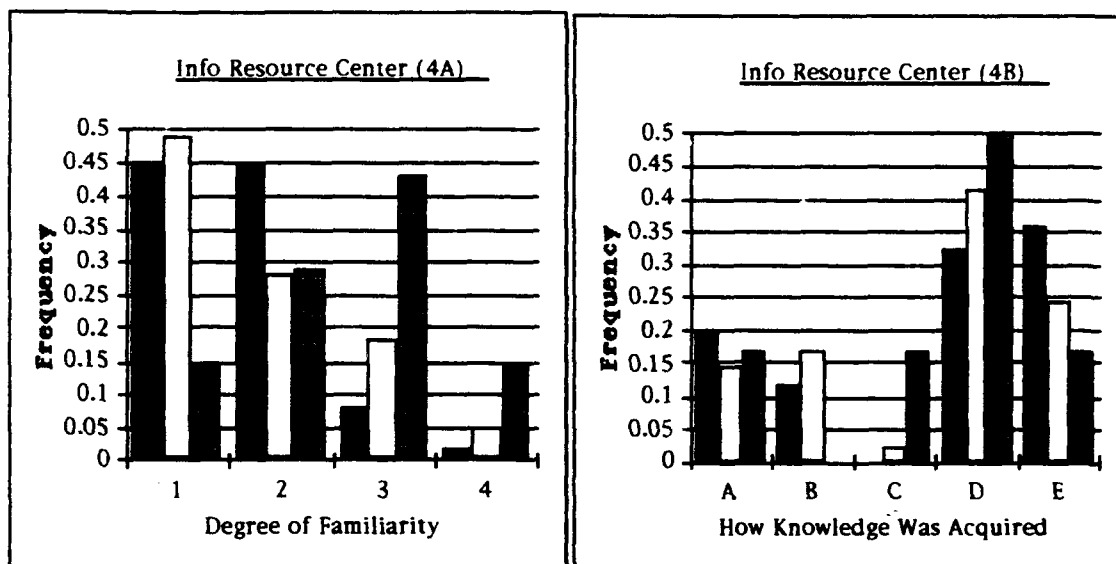


Figure F-8. Information Resource Center
Familiarity and How Knowledge Acquired

IM Strategic Plan. Overall, more individual respondents were familiar with this concept than with others on the survey with 70.5 percent familiar to some degree. Knowledge acquisition was fairly evenly distributed between formal Air Force education, OJT, interaction with others, and personal

study. Only two individuals cited degree-awarding education programs. Figure F-9 depicts the overall results.

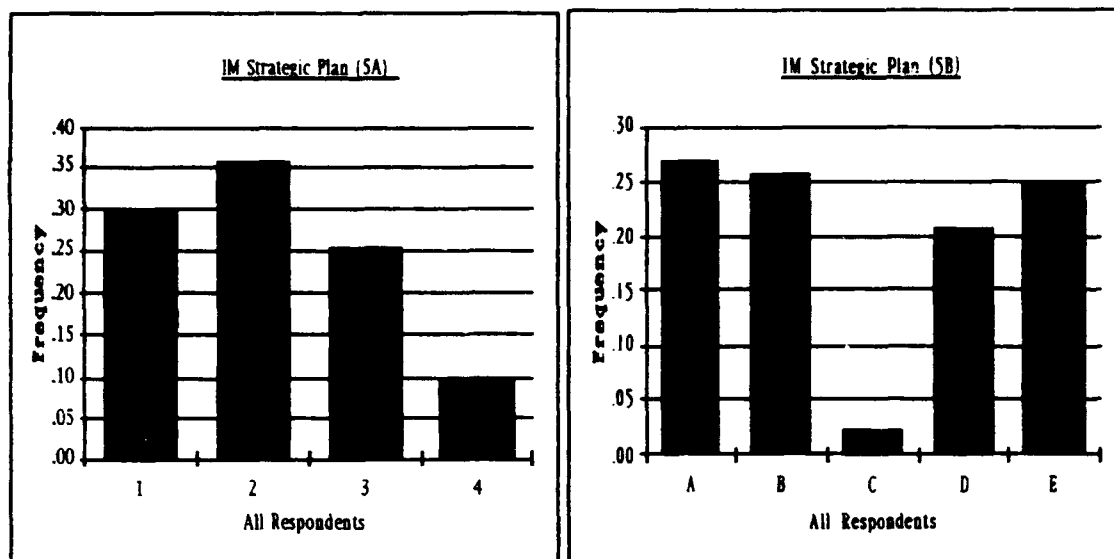


Figure F-9. Responses for IM Strategic Plan (Overall).

SNCOs and NCOs had a much greater percentage of respondents with some degree of familiarity than Airmen (78.6 and 77.1 to 57.1 percent). Furthermore, SNCOs had a larger percentage of individuals with a high degree of familiarity than NCOs (21.4 compared to 7.2 percent). According to results of the Fisher's Exact Test, the difference between categories was significant with a probability of .03. Familiarity was acquired by Airmen and NCOs primarily through formal Air Force education, OJT, interaction with others, and personal study, however, for SNCOs OJT was not a player. Figure F-10 depicts the results by category.

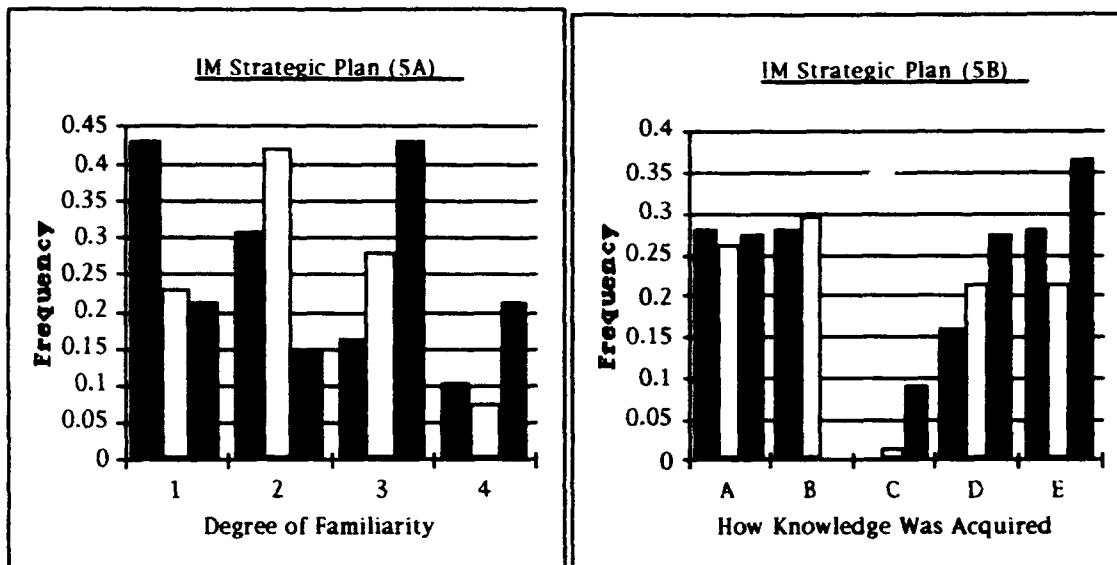


Figure F-10. IM Strategic Plan
Familiarity and How Knowledge Acquired

Information Needs ID and Analysis. Only 35.9 percent of overall respondents had any degree of familiarity on this subject, with 28.3 percent falling in the lowest knowledge level. The greatest percentage of those respondents acquired this knowledge through personal study (40 percent) with the next highest being through interaction with others (26 percent). Figure F-11 reports the overall results for this subject.

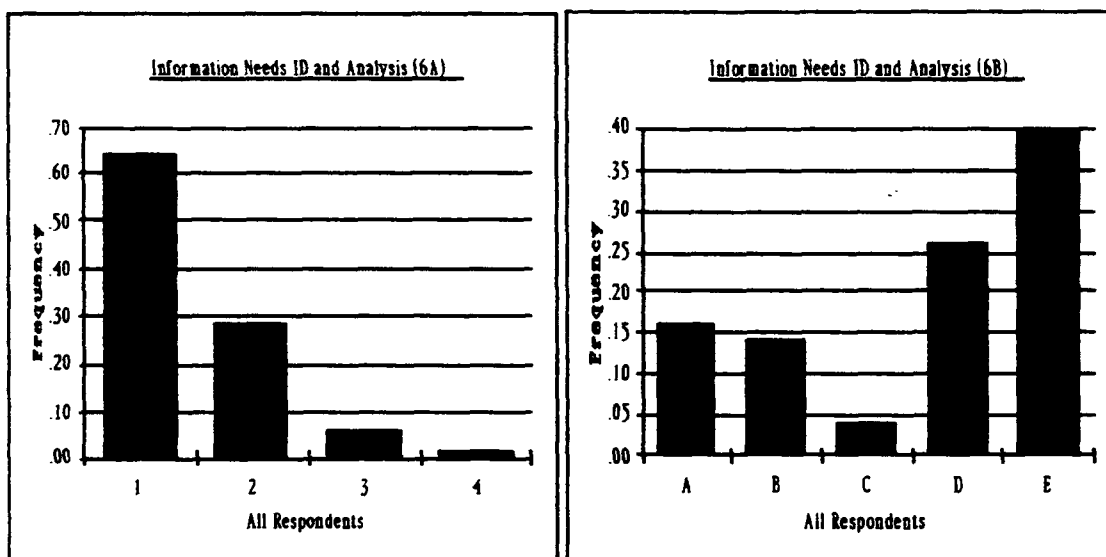


Figure F-11. Responses for Information ID and Analysis (Overall).

Although the degree of familiarity increases with rank as for previous terms, in each category the majority of respondents had no familiarity at all with this subject. For those individuals with some degree of familiarity, the majority of SNCOs obtained this knowledge through personal study (57.1 percent), whereas NCOs and Airmen reported a combination of interaction with others and personal study (58.6 and 85.7 percent). Figure F-12 reports the results by category.

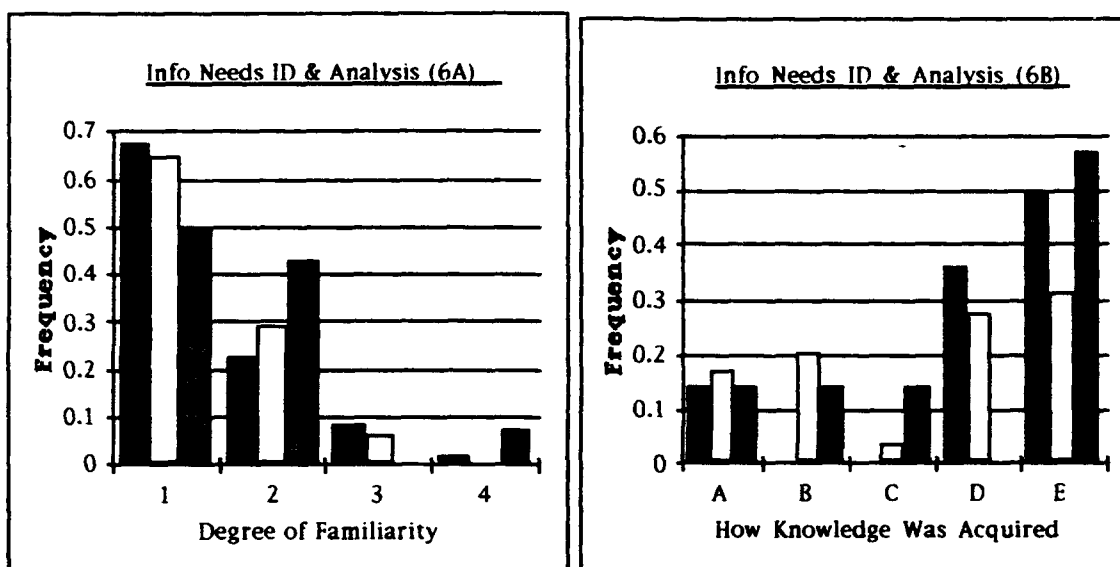


Figure F-12. Information Needs ID and Analysis
Familiarity and How Knowledge Acquired

Information Flow. For this particular subject, 66.5 percent of all respondents had some level of familiarity with 15.1 percent having the highest level of familiarity. Individuals reported acquiring this knowledge primarily through formal Air Force education (27.2 percent) and OJT (28.3 percent). Figure F-13 shows overall results.

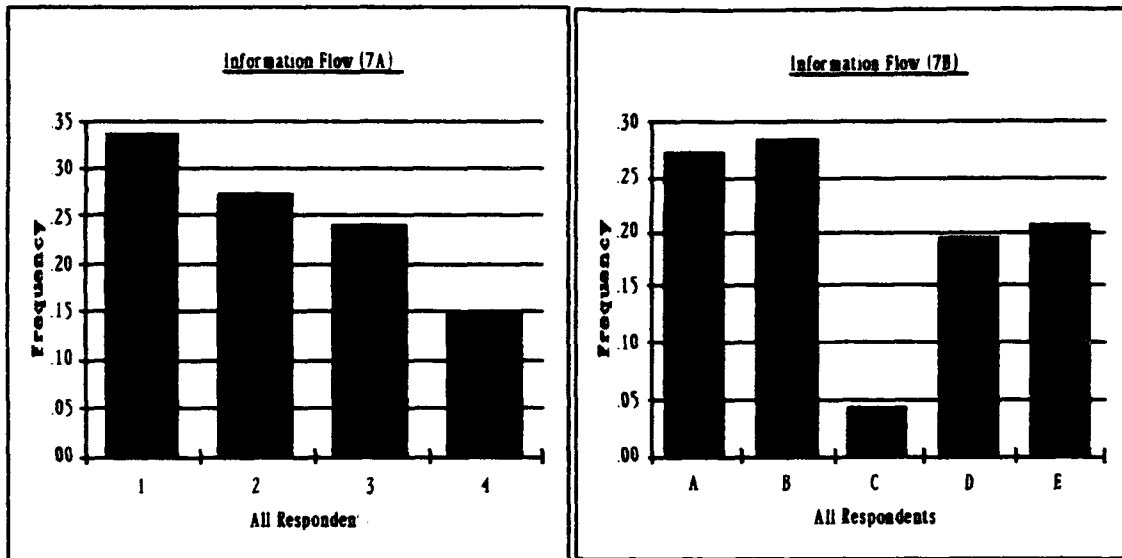


Figure F-13. Responses for Information Flow (Overall).

Again, the frequency of familiarity as well as the degree of familiarity increased with rank. For SNCOs, 85.7 percent reported familiarity in the two highest degrees; this is compared with 41 percent for NCOs and only 21.5 for Airmen. These differences in familiarity levels were found to be significant when running the Fisher's Exact Test with a resulting probability of .0002. SNCOs acquired this knowledge equally between formal Air Force education and personal study (33.3 percent each), whereas the greatest percentage of NCOs acquired their knowledge through formal Air Force education (28.1 percent) and on-the-job training (31.6 percent). Airmen results were fairly equally distributed between formal Air Force education, on-the-job training, interaction with others, and personal study. Figure F-14 shows the results by category.

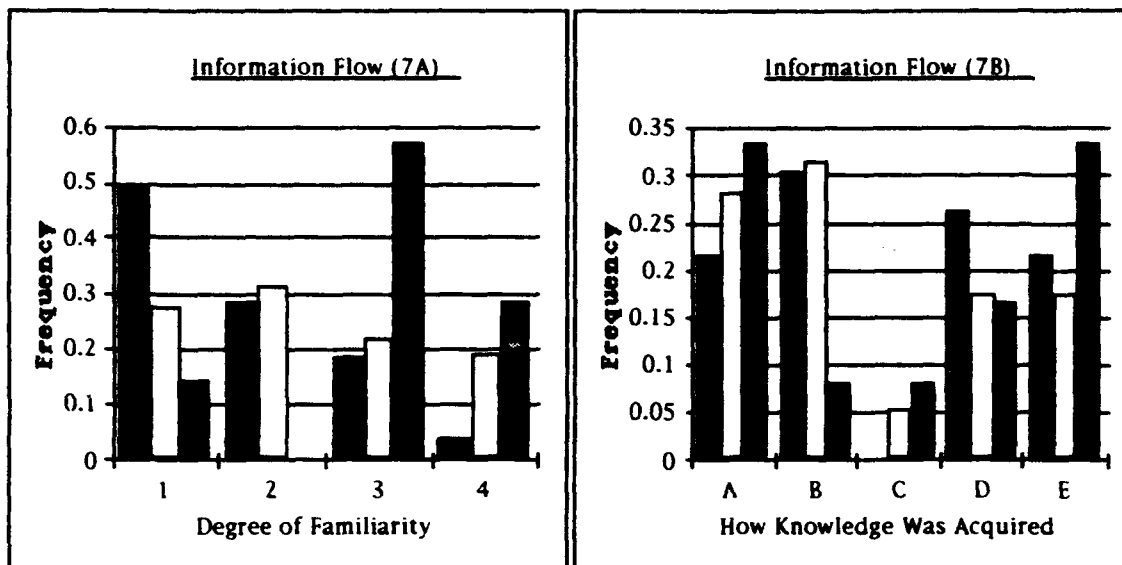


Figure F-14. Information Flow
Familiarity and How Knowledge Acquired

Information Engineering. This was another term with a very high percentage of individuals with no familiarity at all (71.7 percent), and out of those individuals with any degree of familiarity, 22.1 percent reported the lowest level. The greatest percentage of these individuals acquired knowledge through interaction with others (35 percent) and personal study (42.5 percent). Figure F-15 reports overall results.

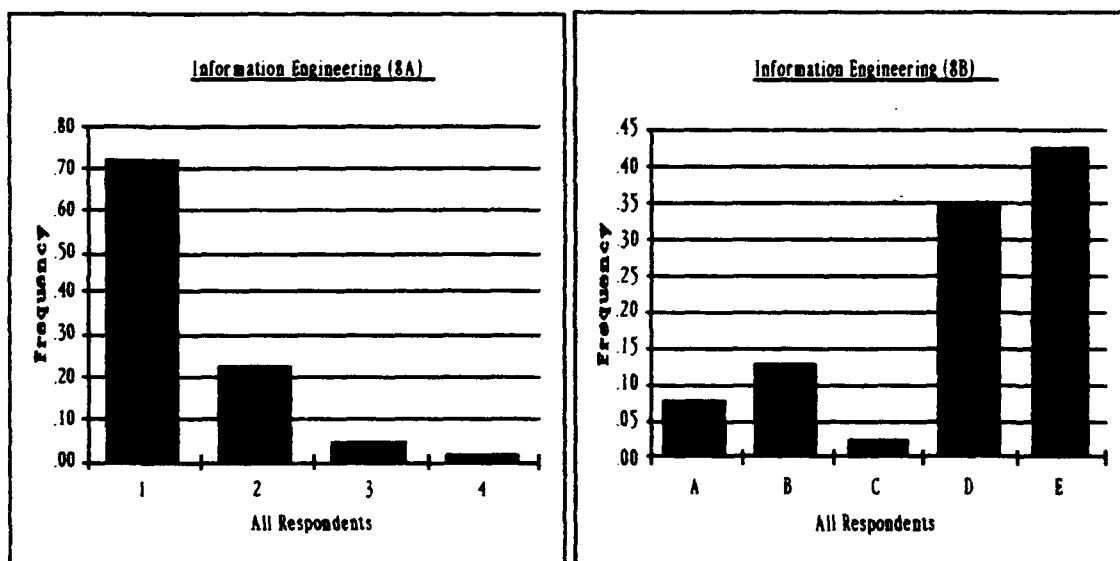


Figure F-15. Responses for Information Engineering (Overall).

When evaluating the results of individual categories, knowledge of this subject did again increase with rank, however, it is interesting to note that even SNCOs reported 57.1 percent totally unfamiliar. Of the 42.9 percent that are familiar to some degree, all acquired their knowledge through personal study. Airmen and NCOs reported their highest frequencies in interaction with others and personal study, however, NCOs also reported formal Air Force education (12.5 percent) and on-the-job training (20.8 percent) as means for acquiring knowledge on this subject. Differences in means by which knowledge was acquired was found to be significant with the Fisher's Exact Test with a probability of .026. Figure F-17 reports results by category.

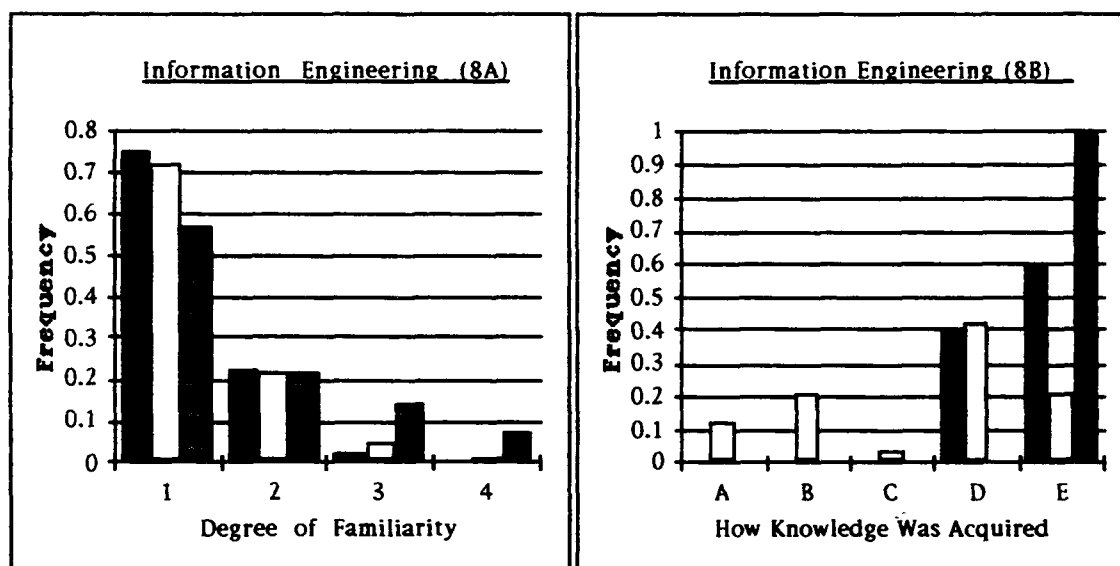


Figure F-17. Information Engineering
Familiarity and How Knowledge Acquired

Data Administration. The highest percentage of respondents once again were not familiar with this subject at all (47.6 percent). Of the 52.4 percent with some degree of familiarity, 28.3 percent had the lowest level. For those individuals with some level of familiarity, the highest frequency of

means for acquiring this knowledge was reported in on-the-job training (30.7 percent), interaction with others (36 percent), and personal study (24 percent). Figure F-18 graphically reports these overall results.

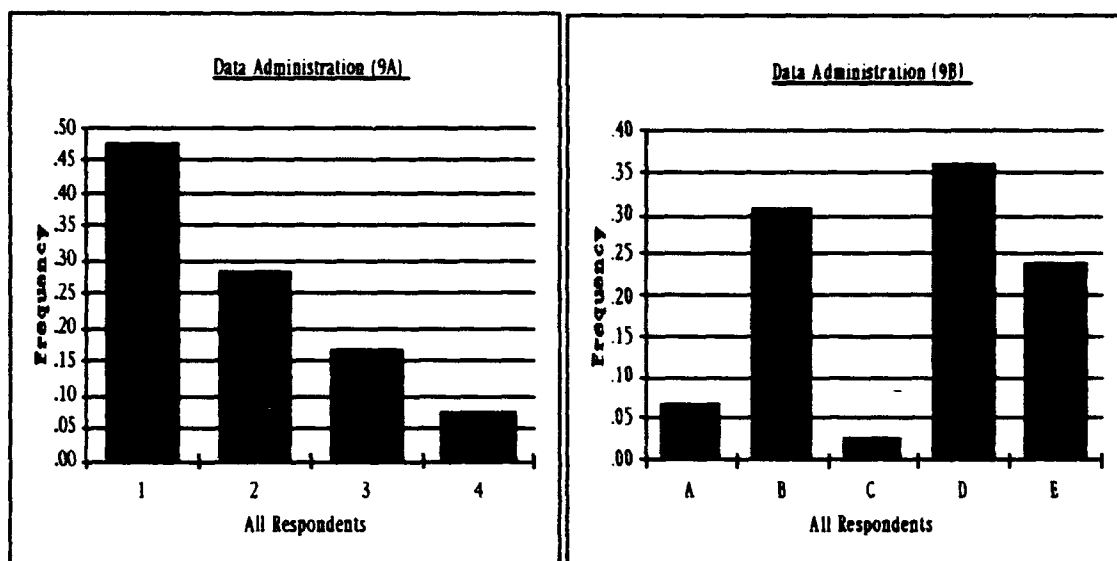


Figure F-18. Responses for Data Administration (Overall).

The trend of increasing knowledge levels with increasing rank is evident for this subject as well. SNCOs have the highest percentage of individual respondents with some degree of familiarity with 78.5 percent, compared with 53.7 percent for NCOs and 42.9 percent for Airmen. Differences between levels of familiarity were found to be significant according to the Fisher's Exact Test with a probability of .035. Of these, SNCOs acquired their knowledge equally between on-the-job training and personal study (36.4 percent each) with another 27.3 percent using interaction with others as their tool. NCOs relied on interaction with others in 44.4 percent of the cases, with another 28.9 using on-the-job training and 17.8, personal study. Airmen agreed that these three tools were the primary means for acquiring knowledge, however, the percentiles differed slightly with more individuals selecting on-

the-job training and personal study (31.6 percent each) and another 21.1 percent, interaction with others. Figure F-19 shows these relationships.

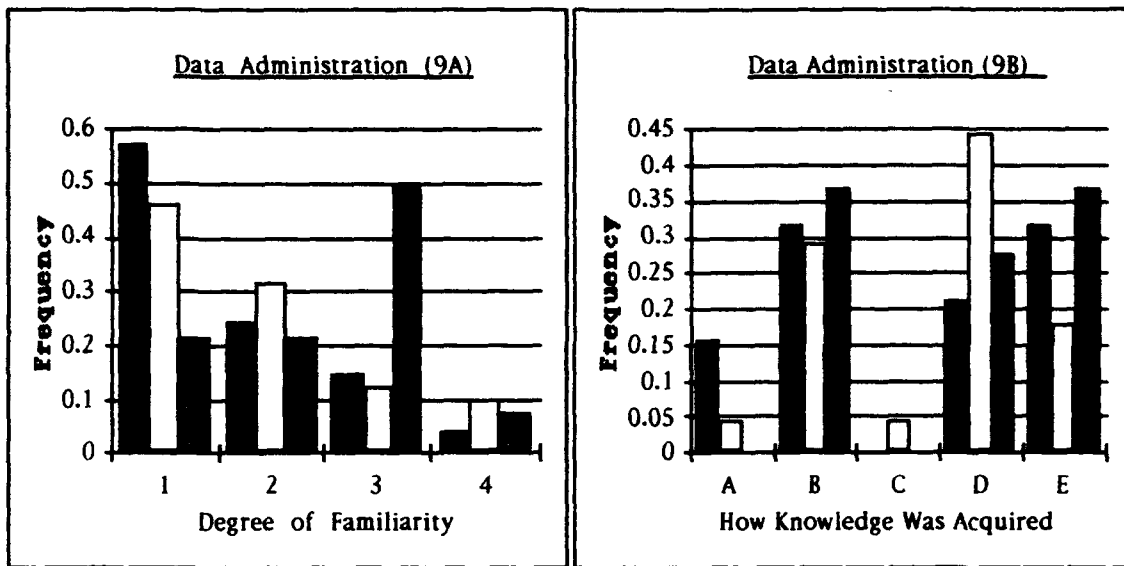


Figure F-19. Data Administration Familiarity and How Knowledge Acquired

Document Imaging. Again, over 50 percent of all respondents had no familiarity with this subject. Out of those with some degree of knowledge, 29.5 percent reported only the lowest degree of familiarity and only one person reported the highest degree. Those respondents with familiarity reported highest percentiles for acquiring this knowledge through personal study (35.3 percent), interaction with others (29.4 percent), and on-the-job training (23.5 percent). Figure F-20 depicts these overall results.

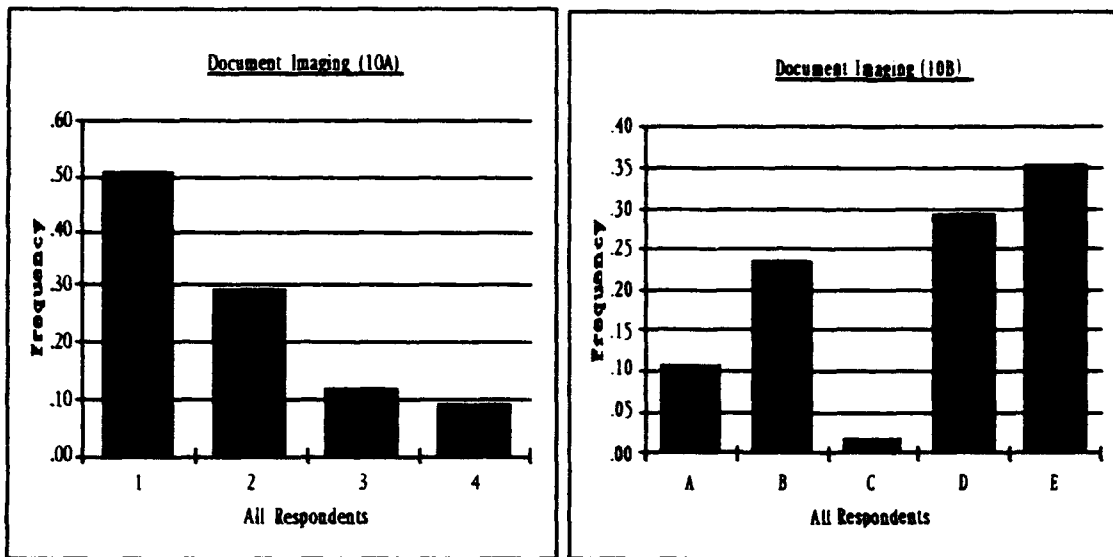


Figure F-20. Responses for Document Imaging (Overall).

Again, familiarity levels increase with the rank of the respondents; SNCOs had the greatest percentage of individuals with some degree of familiarity at 85.7 percent. SNCOs focused more of their learning on personal study at 58.3 percent. Airmen concurred, but NCOs preferred OJT, personal study, and interaction with others, with the latter holding the highest percentile at 35 percent. Figure F-21 depicts results by category.

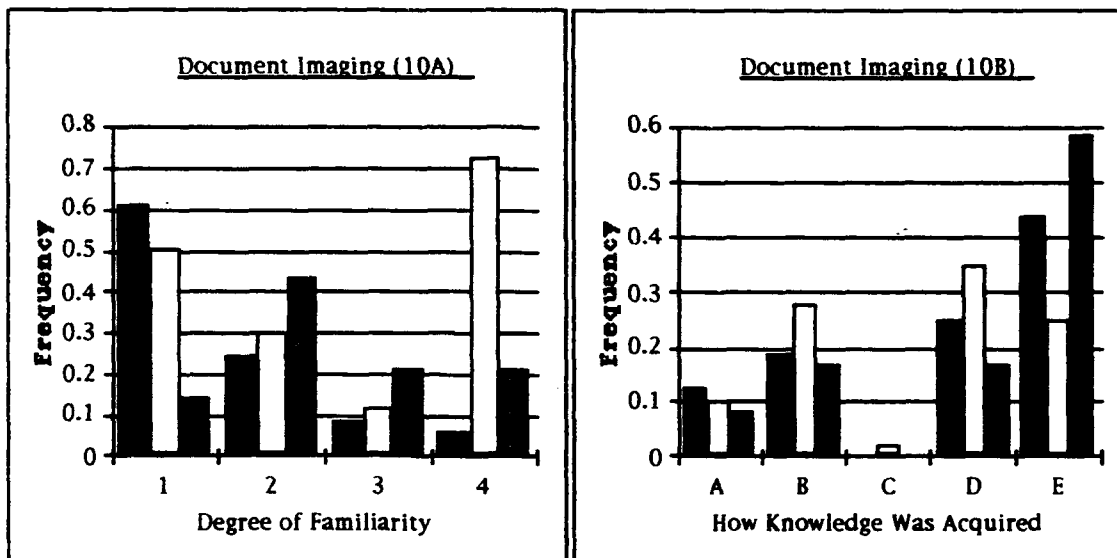


Figure F-21. Document Imaging Familiarity and How Knowledge Acquired

Electronic Data Interchange (EDI). Overall results for this subject once again show a high level of individuals (70.3 percent) with no familiarity at all. Of those with some degree of familiarity, 18.6 percent reported the lowest level. These respondents also reported that the greatest percentile of individuals had acquired their knowledge through personal study (39.5 percent), followed by interaction with others (27.9 percent). Figure F-22 reports these overall results.

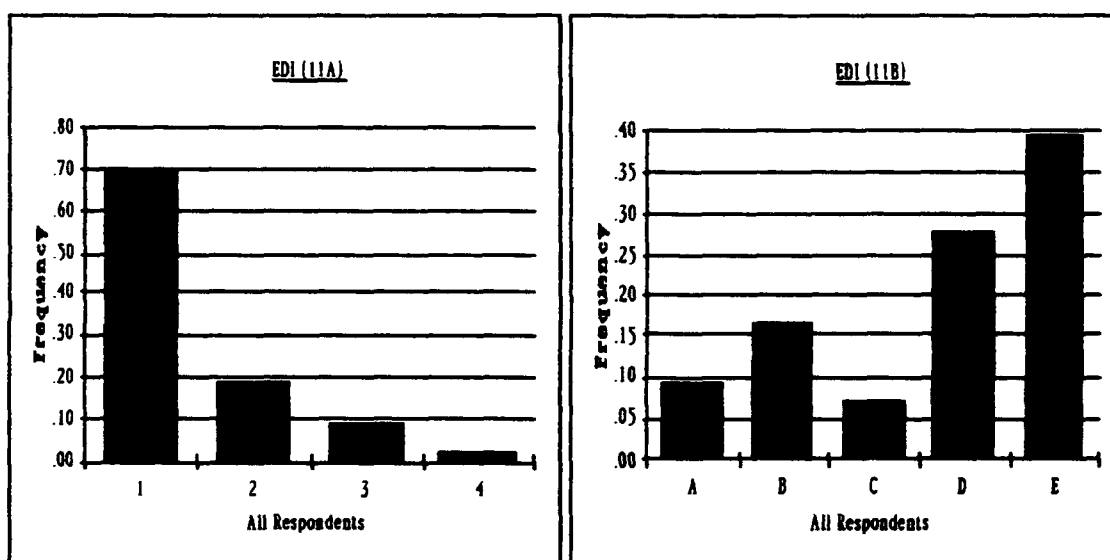


Figure F-22. Responses for Electronic Data Interchange (Overall).

When evaluating this data by category, both Airmen and NCOs reported a large percentage of individuals with no familiarity on this subject (75.5 and 73.2 percent), whereas the percentage of SNCOs in this grouping dropped to 35.7 percent. It is notable that of the three respondents who reported being very familiar with this subject, all were NCOs not SNCOs. Differences in degree of familiarity were significant among the three categories based upon results of the Fisher's Exact Test with a probability of .021. SNCOs obtained their

background on this subject solely through interaction with others (44.4 percent) and personal study (55.6 percent). Airmen agreed that personal study was the media with the greatest percentile, however, NCOs again were more evenly distributed among on-the-job training (21.7 percent), interaction with others (21.7 percent), and personal study (30.4 percent). Figure F-23 presents this data graphically.

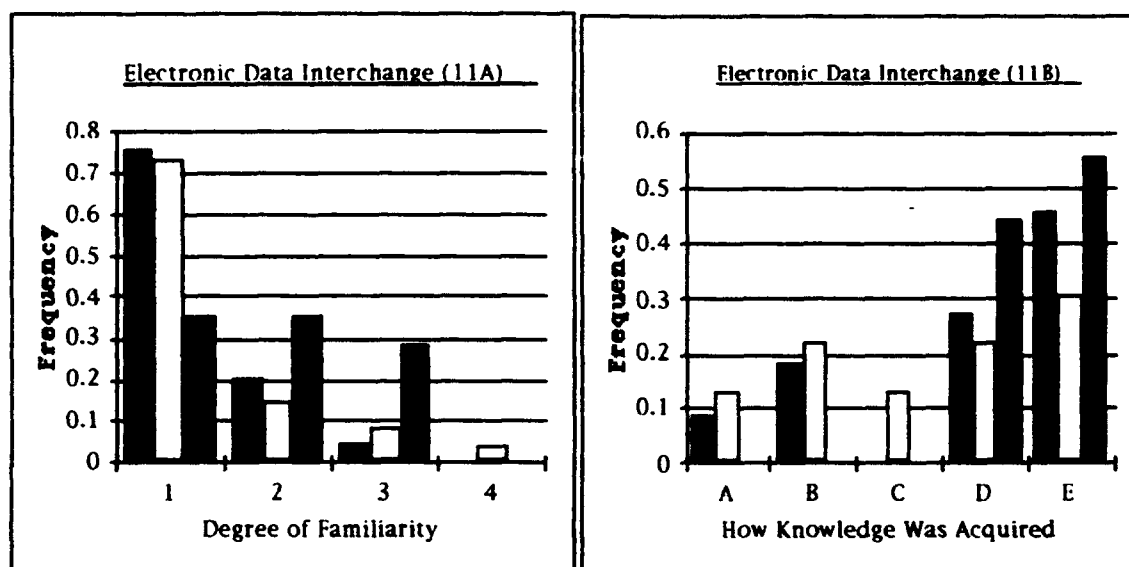


Figure F-23. Electronic Data Interchange (EDI)
Familiarity and How Knowledge Acquired

DMRD 918: CIM. This subject had the second highest percentage of individuals reporting no degree of familiarity at 87.6 percent. No one was completely familiar with this subject. The greatest percentage of those with some level of familiarity reported that it was acquired through personal study (47.1 percent). Figure F-24 reports these overall results.

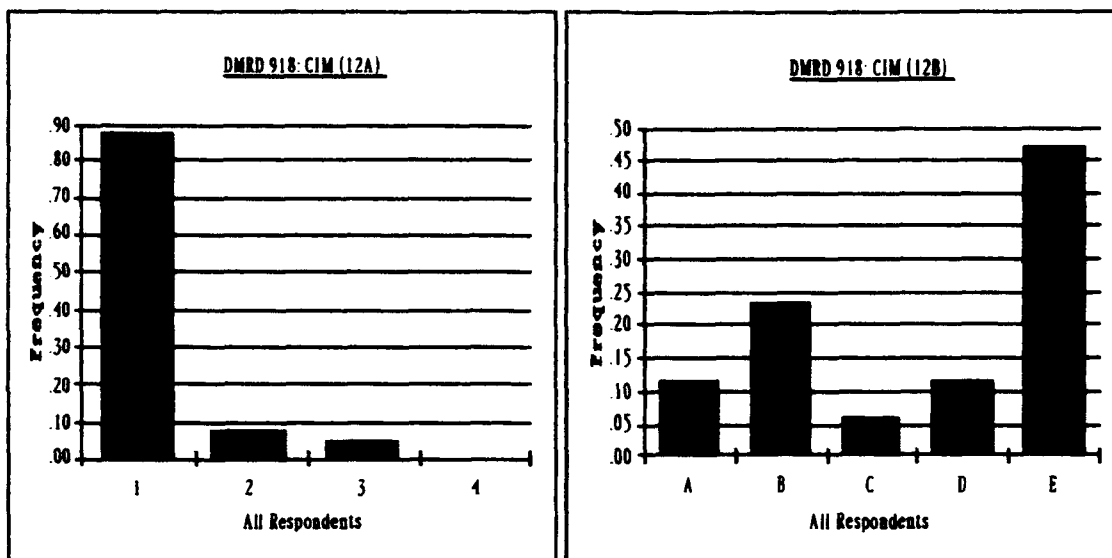


Figure F-24. Responses for DMRD 918: CIM (Overall).

For this subject, all categories of respondents reported a very high percentage of individuals with no familiarity, although the SNCOs had a slightly lower percentage. It is important to note that no one reported having the highest level of familiarity for this subject. Using the Fisher's Exact Test, significance was determined between the responses by different categories with a probability of .043. SNCOs acquired their information primarily from personal study with 75 percent, whereas Airmen relied more on On-the-job training. NCOs were once again more dispersed in their means for acquiring knowledge on this subject, however, the greatest percentage of respondents agreed with SNCOs selecting the use of personal study as their primary tool. Figure F-25 represents the data by category.

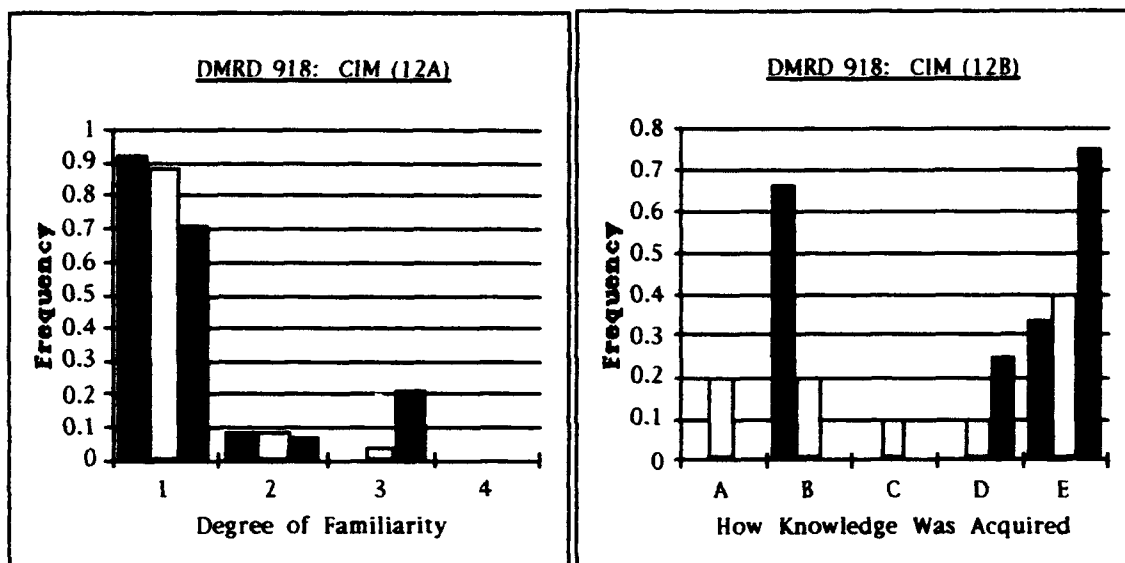


Figure F-25. DMRD 918: CIM
Familiarity and How Knowledge Acquired

Defense Business Operations Fund (DBOF). Overall results reported 80.6 percent of all respondents having no familiarity with this program. Of those with some degree of familiarity, 15.3 percent reported the lowest level. Most respondents acquired their knowledge through personal study (40.7 percent) and interaction with others (33.3 percent). Figure F-26 reports these results.

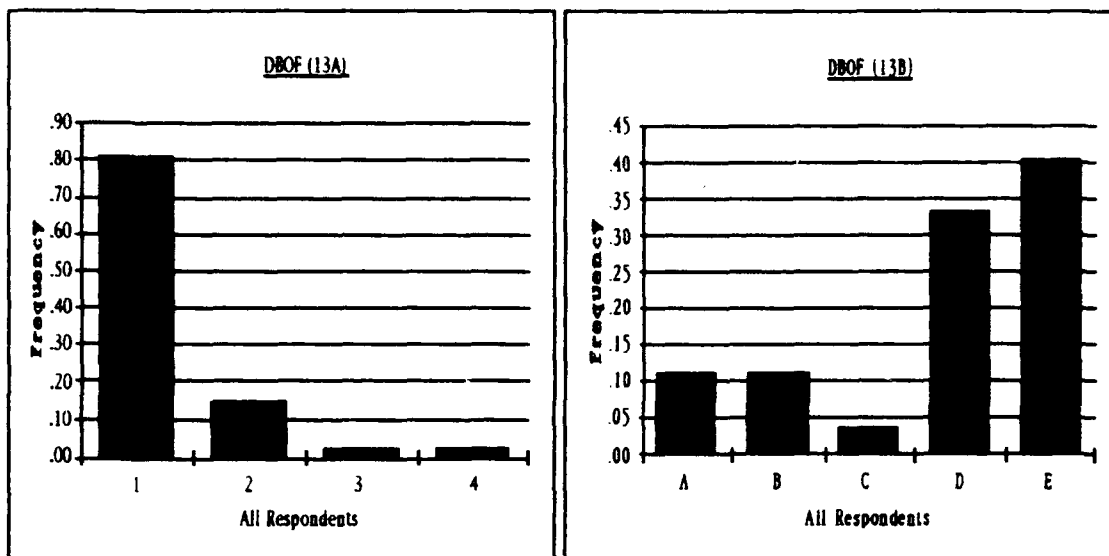


Figure F-26. Responses for DBOF (Overall).

Again, this subject follows trends as in the past, however, the percentages for nonfamiliarity for Airmen and NCOs is considerably higher than for SNCOs (85.7 and 82.7 compared to 50 percent). This difference, however, was found to be significant under the Fisher's Exact Test with a probability of .0078. SNCOs again reported acquiring their subject familiarity via interaction with others (28.6 percent), and personal study (71.4 percent). Airmen and NCO categories agreed with these means for acquiring knowledge; however, Airmen had a greater percentage reported for interaction with others. Additionally, NCOs noted 21.4 percent of respondents acquired knowledge through formal Air Force training. Figure F-27 reports the DBOF results by ranked category.

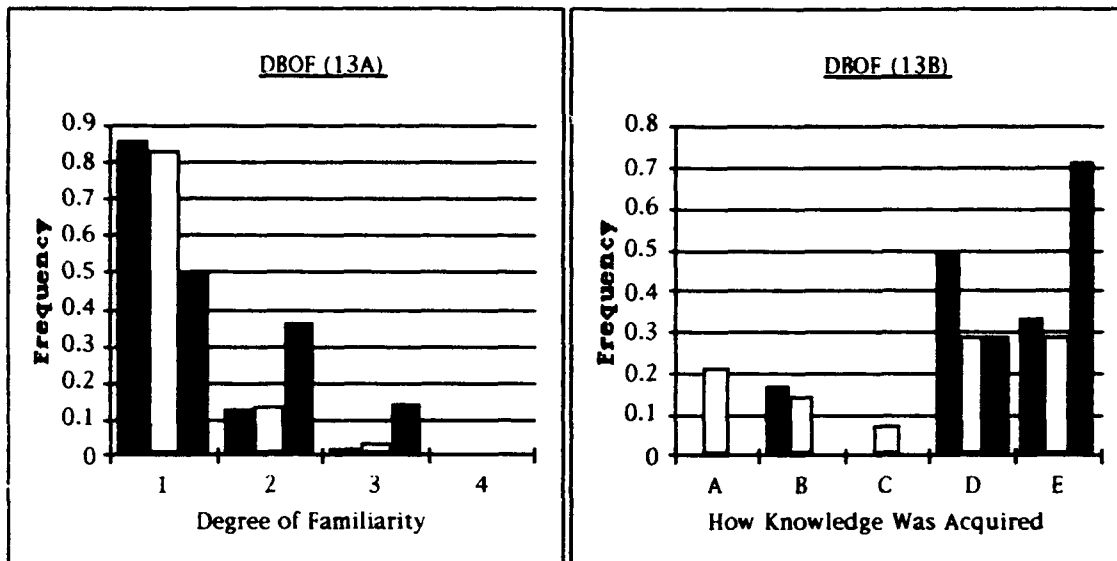


Figure F-27. Defense Business Operations Fund (DBOF) Familiarity and How Knowledge Acquired

Integrated Computer-aided Manufacturing Definition Language (IDEF). This subject reports the greatest percentage of individuals with no familiarity at 89.6 percent. Of those few individuals that did have knowledge, the majority obtained this background through personal study (68.8 percent). Overall results are presented in Figure F-28.

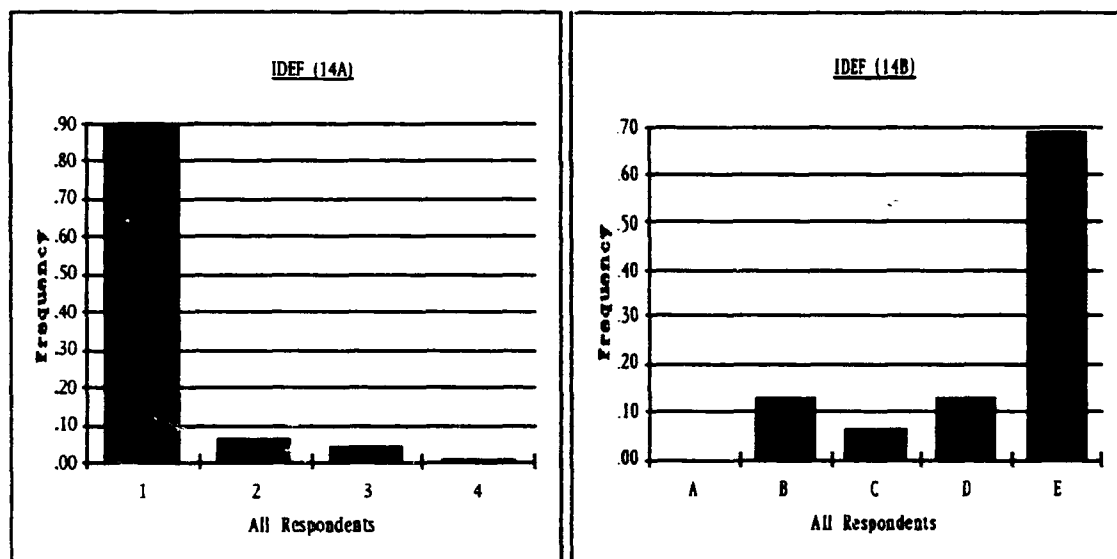


Figure F-28. Responses for IDEF (Overall).

The percentage of individuals in both Airmen and NCO categories with no familiarity on this subject is very high--over 90 percent in both cases. SNCOs are slightly more familiar with the percentage of nonfamiliar respondents at 64.3 percent. Differences between familiarity levels of each category were found to be significant, however, when running the Fisher's Exact Test with a resulting probability of .019. All SNCOs with some degree of knowledge selected personal study as the means for acquiring this knowledge (with the exception of one). Airmen concur with this, whereas NCO responses were a little more distributed among the other options, but again the greatest percentile was reported for personal study with 55.6 percent. Figure F-29 reports this data by category.

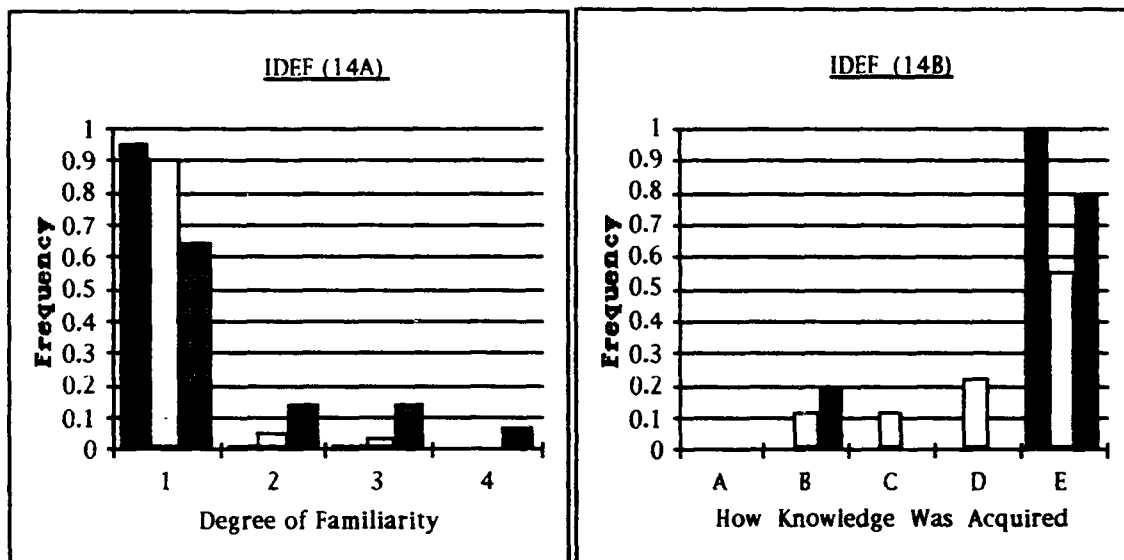


Figure F-29.

ICOM Definition Language
Familiarity and How Knowledge Acquired

Part 3: Functional Issues. Part three of the needs assessment survey asked respondents to evaluate certain responsibility statements which were grouped according to functional area. Statements were either categorized as current, future, or training. Respondents were to determine how closely the statements marked current depicted the present function within their organizations. Statements marked future were to be evaluated for how accurately they represented the future of IM. Statements marked training were to be appraised for the most appropriate mode of training.

Results are reported via overall frequencies and by an analysis of the three rank categories--Airmen, NCO, and SNCO--used earlier in this chapter. The analysis is focusing primarily on dependency of these three categories to determine whether or not significant differences exist in how members of the three categories respond. Results are presented by functional area.

Forms Management.

(Current) Acquires, updates and manually fills out AF and local forms. Determines requirement; creates and publishes local forms when needed.

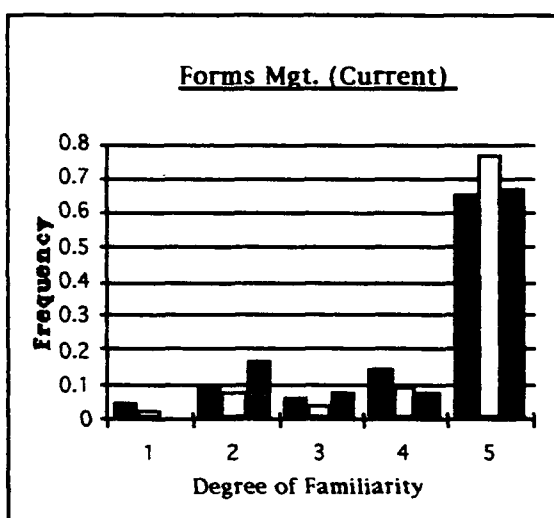


Figure F-30. Forms Management (Current)

Maintains forms index. The overwhelming majority of respondents (71.9 percent) agreed with option 5--that this concept was completely integrated within their organizations. Only 2.7 percent of respondents were not familiar with this concept.

When evaluating the results by category, the distribution of

responses by Airmen, NCOs, and SNCOs were similar with a decreasing number of individuals with no familiarity decreasing as the rank increased. Figure F-30 portrays this distribution of results by category.

(Future) Forms are maintained on electronic media and are electronically linked to applicable directives, providing immediate assistance. Accountability is provided on forms field of central database. Completed forms published manually or by E-Mail. Updates provided via E-Mail or electronic media. Responses were dispersed over all of the options with some degree of familiarity, but option 4--concept is familiar; organizational steps in direction have been taken--had the highest response percentile at 35.6 percent. Lower

levels of familiarity received 44.3 percent of the responses and the higher level, 17.4 percent. Only 2.7 percent of respondents were not familiar.

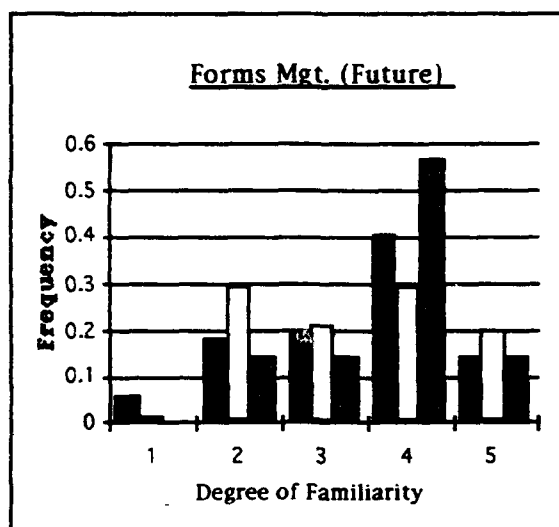


Figure F-31. Forms Management (Future)

When evaluating the results by category, the distributions are similar with the greatest frequency of individuals with some degree of familiarity selecting option 4 in each case, except that an equal percentage of Airmen also selected

option 1--the lowest level of familiarity. Again it is important to note that the number of individuals with no familiarity decreased as the rank increased, with SNCOs having no respondents selecting this option. Figure F-31 shows this break-out by category.

(Training A) Required training on use of software and database access. Train on FTP. The mode of training receiving the highest percentage of responses was on-the-job training at 41 percent; the second highest percentage, computer-aided instruction (18.8 percent). The other training mode receiving a fairly high percentage of responses was technical training with 16.7 percent. Another 16.7 percent of respondents were not familiar with the training concept presented.

Preferences on appropriate mode of training varied by category. Airmen overwhelmingly selected on-the-job training as the preferred mode of training with 54.3 percent, however, NCOs were more varied in their preferred choice with 35.4 percent selecting on-the-job training, 24.4 selecting computer-aided instruction, and 20.7 selecting technical training. SNCOs, on the other hand,

were evenly distributed between on-the-job training and computer-aided instruction, both receiving 28.6 percent of responses, with 21.4 percent selecting official education. Members of the other categories had not stated a sizeable preference for this mode of training. Once again, the number of respondents stating they had no familiarity with this concept decreased as the rank increased, with no SNCOs selecting

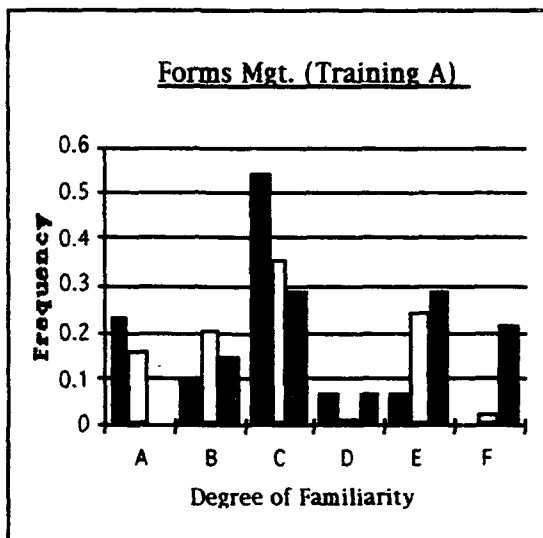


Figure F-32. Forms Management (Training A)

this option. Differences between responses were found to be significant using Chi Square Analysis with a resulting probability of .000. Figure F-32 represents

this break-out of responses by category.

(Training B) Train on use of E-Mail. The mode of training receiving the highest percentage of responses was on-the-job training at 41.8 percent; the second highest percentage, computer-aided instruction (21.9 percent). The other training mode receiving a fairly high percentage of responses was again technical training with 13 percent. Another 17.1 percent of respondents were not familiar with the training concept presented.

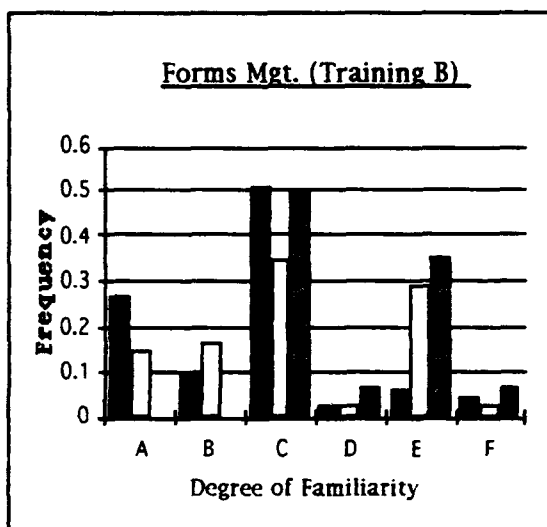


Figure F-33. Forms Management (Training B)

Once again, the responses were spread out a little differently when broken out by rank category. Airmen overwhelmingly selected on-the-job training as their preferred mode of training with 51 percent, whereas NCOs were more evenly distributed between on-the-job training (34.9 percent) and computer-aided instruction (28.9 percent). SNCOs also preferred these

two training modes with 50 percent selecting on-the-job training and 35.7 selecting computer-aided instruction. Once again, the number of responses from individuals with no familiarity with this concept decreased as rank increased with no SNCOs selecting this option. Differences between responses were found to be significant using Chi Square Analysis with a resulting probability of .020. Figure F-33 graphically represents the results by rank category.

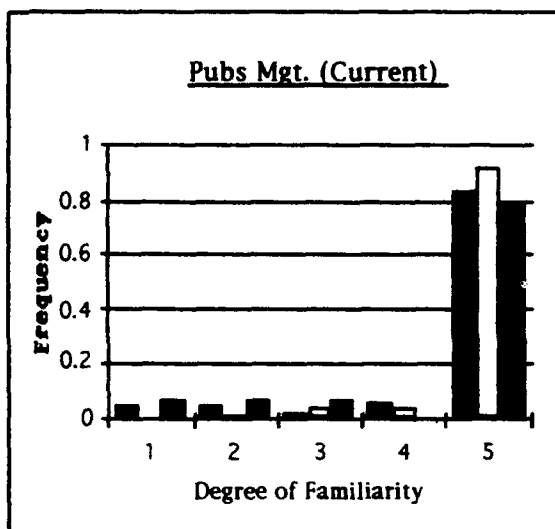


Figure F-34. Pubs Management (Current)

within their organizations. Few individuals stated they were not familiar with this concept.

Members of all three rank categories agreed with the overall distribution of responses, selecting option 5 the majority of the time. Figure F-34 represents results by category.

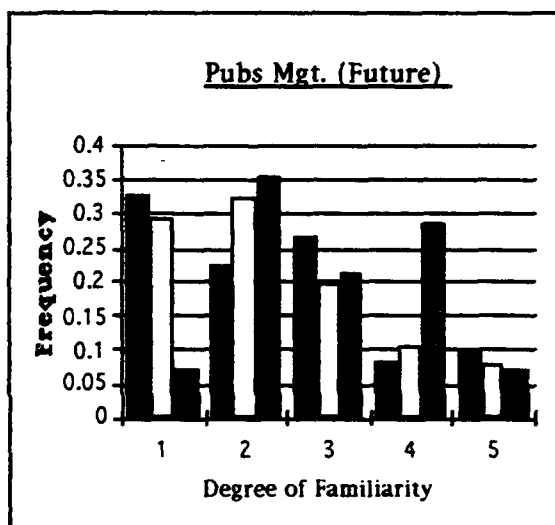


Figure F-35. Pubs Management (Future)

Publications Management.

(Current) Acquires and updates Air Force regulations in hardcopy. Maintains regulations index. Paper updates manually inserted into binders; obsolete pages discarded.

The overwhelming majority of respondents (87.9 percent) agreed with option 5--that this concept was completely integrated

(Future) Policy directives are maintained in central database and are invisibly linked to associated forms. Viewed electronically or can be printed. Updates provided via E-Mail or electronic media.

Responses were again dispersed over all of the options with some degree of familiarity, but option 2--

concept familiar, but not enacted within my organization--had the highest response percentile at 29.5 percent. The next highest level of familiarity received 22.1 percent, with the highest level receiving only 8.7 percent. Over 28 percent of respondents were not familiar with this concept.

When evaluating the responses by category, it is interesting to note that of the Airmen with some degree of familiarity had a slightly higher level of response--greater percentage selecting option 3--than NCOs or even SNCOs, however they also had the highest percentile of individuals stating they had no familiarity on this concept. SNCOs were much more evenly spread between options 2, 3, and 4. Figure F-35 shows this distribution by category.

(Training A) Required training on use of updating software and

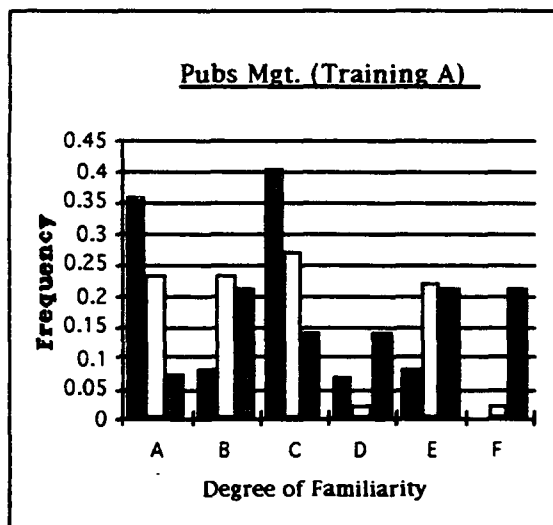


Figure F-36. Pubs Management (Training A)

database access. The mode of training receiving the highest percentage of responses was on-the-job training at 30.1 percent. Technical training and computer-aided instruction also received fairly high percentages (18.2 and 17.5 percent). Another 29.5 percent of respondents were not familiar with the training concept presented.

When evaluating responses by category, Airmen overwhelmingly selected on-the-job training with a 40.4 percent response rate, whereas NCOs and SNCOs were much more varied in their responses. NCOs preferred on-the-job training (26.8 percent), technical training (23.2 percent), and computer-

aided instruction (22 percent). SCNOs scored equally on technical training, computer-aided instruction, and official education, each receiving 21.4 percent of the responses. The other two training modes each received 14.3 percent of the responses. Once again, the number of respondents with no familiarity with this subject decreased as rank increased. Differences between responses were found to be significant using Chi Square Analysis with a resulting probability of .000. Figure F-36 represents the responses by category.

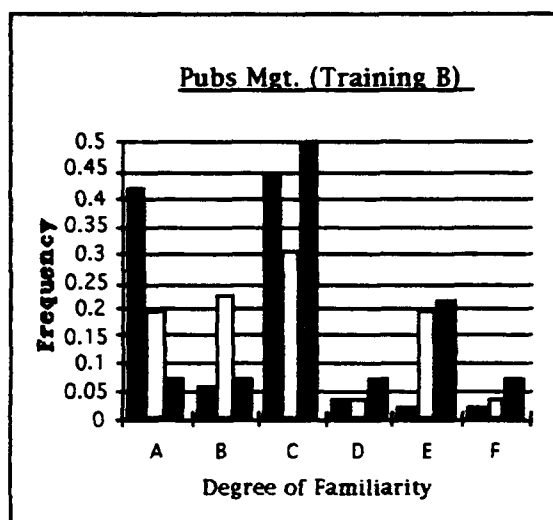


Figure F-37. Pubs Management (Training B)

(Training B) Train on use of E-Mail. The mode of training receiving the highest percentage of responses was on-the-job training at 37.1 percent. Technical training and computer-aided instruction also received fairly high percentages (15.4 and 14 percent). Another 25.9 percent of respondents were not familiar with the training concept presented.

In this case, each category of respondees selected on-the-job training as the preferred mode of training. For Airmen, this was an overwhelming percentile of 43.8. NCOS agreed that on-the-job training was the preferred mode at 30.9 percent, but another 22.2 percent selected technical training and 19.8 percent selected CAI. SNCOs agreed with a 50 percent rate of response, however, another 21.4 percent selected computer-aided instruction. The frequency of individuals with no familiarity with this subject decreased as rank increased. Differences between responses were found to be significant

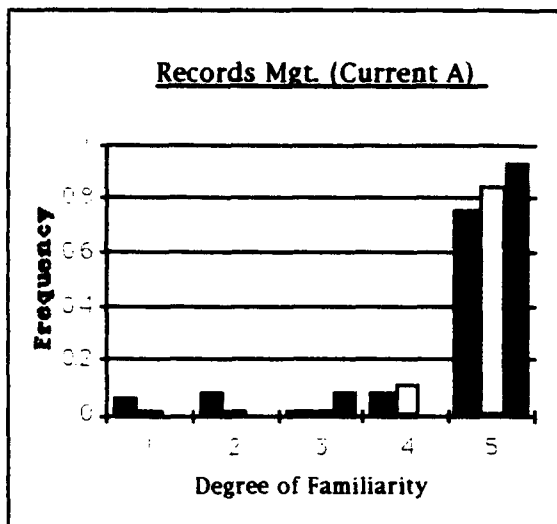


Figure F-38. Records Mgmt (Current A)

with option 5--that this concept was completely integrated within their organizations.

Respondents across the different rank categories agreed with their selection of

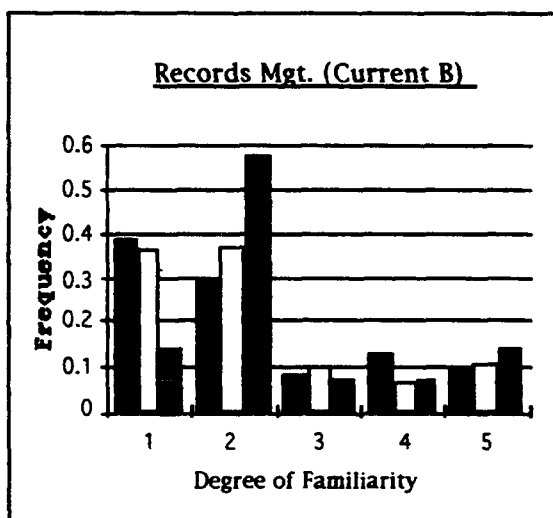


Figure F-39. Records Mgmt (Current B)

using Chi Square Analysis with a resulting probability of .008. Figure F-37 presents results by category.

Records Management.

(Current A) Manages hard-copy records using a file plan created via Records Information Management System (RIMS). The overwhelming majority of respondents (82 percent) agreed

with option 5--that this concept was completely integrated within their organizations. Respondents across the different rank categories agreed with their selection of responses. Only a very few individuals selected option 1--unfamiliar with this concept--in the Airmen and NCO categories, with no one selecting it among SNCO responses. Figure F-38 represents the results by category.

(Current B) Identifies the need and processes the requests for miniaturizing documents on microform. Responses were dispersed over all of the options

with some degree of familiarity, but option 2--concept is familiar, but not enacted within my organization--had the highest response percentile at 37.2 percent. The highest level of familiarity received 10.8 percent of the responses with the other two levels of familiarity receiving lower percentiles of a little over 8 each. Another 35.1 percent of respondents were not familiar with this concept. In all three categories, the highest percentile of each selected option 2. Once again, the percentage of individuals stating they had no familiarity

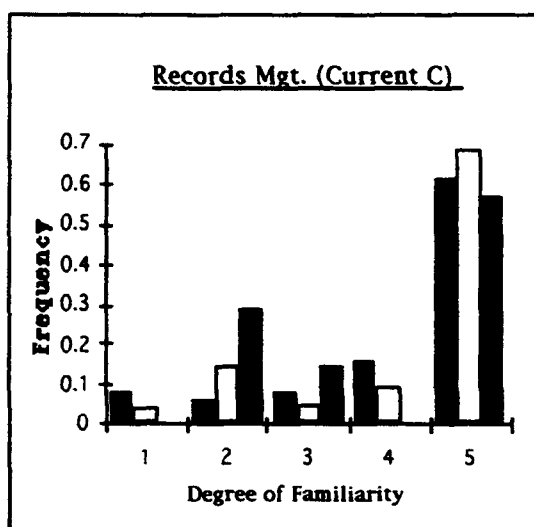


Figure F-40. Records Management (Current C)

with this concept decreased as rank increased. Figure F-39 presents the results by category.

(Current C) Ensures that requests for information are processed in accordance with the Freedom of Information Act (FOIA) and the Privacy Act. Responses were dispersed over all of the options with some degree of familiarity, but option 5--concept is completely integrated--received the

highest response rate of 65.3 percent. Only 4.7 percent of respondents stated that they were unfamiliar with this concept.

When evaluating the responses by category, Airmen, NCOs, and SNCOs all selected option 5 with the highest response rate. NCOs and SNCOs had a slightly higher percentage of individuals selecting option 2 -- the lowest degree of familiarity. Figure F-40 presents results by category.

(Future A) Manages all records, to include electronic records, to ensure

legal requirements for storage and disposal are met. Responses were dispersed fairly evenly over all options, however, option 5--concept is completely integrated--received the highest response rate of 26.7 percent. Other levels of

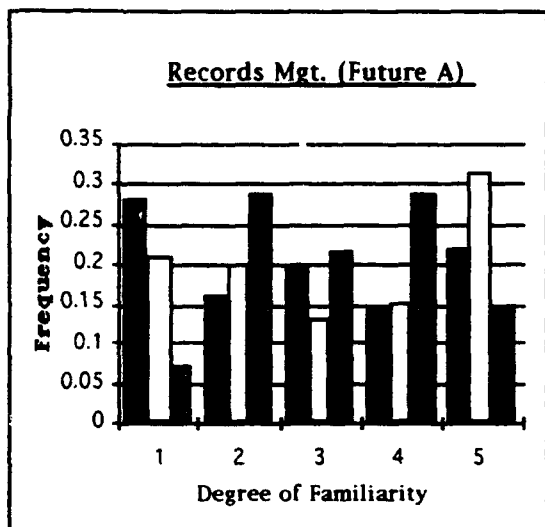


Figure F-41. Records Management (Future A)

decreased overall as rank increased. Figure F-41 presents the results by category.

(Future B) Uses an automated system, such as Document Librarian, to track and file records created in an electronic environment. Responses from those individuals with some degree of familiarity focused on the lower two levels--option 2 receiving 21.5 percent and option 3 receiving 16.8 percent. It is important to note that respondents having no familiarity with this concept stood at 46.3 percent.

familiarity received a total of 51.3 percent, each ranging between 16 and 19.3 percent. Another 22 percent of respondents replied that they were unfamiliar with this concept.

When comparing responses by category, SNCOs had a lower percentage of individuals selecting option 5 than Airmen and NCOs. However, the number of respondents with no familiarity on this concept

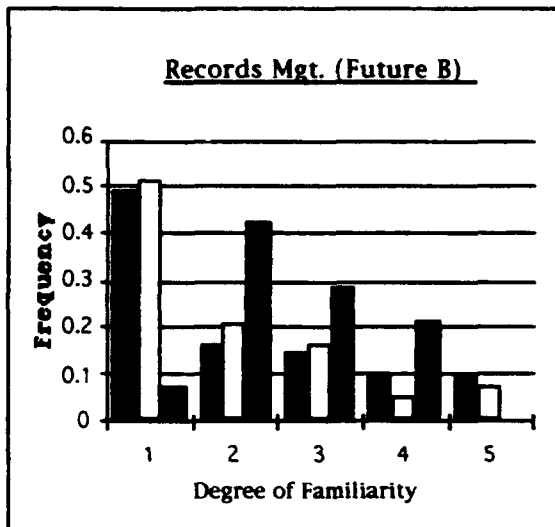


Figure F-42. Records Management (Future B)

responses were found to be significant using Chi Square analysis with a resulting probability of .038. Figure F-42 is the results broken out by category.

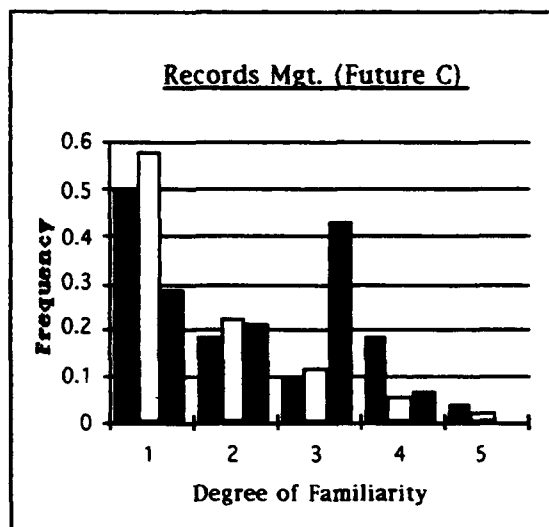


Figure F-43. Records Management (Future C)

with this concept was 52.3 percent.

When evaluating the responses by category, it is important to note that

Results among the three categories were distributed similarly, except that NCOs appeared to have a slightly lower degree of familiarity than Airmen, and a much lower percentage of SNCOs were totally unfamiliar with this concept. No SNCOs selected option 5-concept completely integrated. Differences between category

(Future C) Use of an automated system to flag all Privacy Act data and electronic processing of FOIA requests via network links. Responses from those individuals with some degree of familiarity focused on the lower three levels—option 2 receiving 20.8 percent, option 3 receiving 14.1 percent, and option 4 receiving 10.1 percent. It is again important to note that respondents having no familiarity

the number of individuals with no familiarity increased slightly for NCOs over Airmen, but decreased considerably for SNCOs. For those individuals stating some degree of familiarity, Airmen responses were evenly distributed over options 2, 3, and 4; whereas for NCOs and SNCOs the results were more centered around options 2 and 3. For SNCOs the highest frequency was for option 3 with 42.9 percent. Differences between category responses were found to be significant using Chi Square analysis with a resulting probability of .031. Figure F-43 presents results by category.

(Training A) Instruction on automated document management system and standardized processes for controlling electronic records. Modes of training receiving the highest percentiles for this concept were on-the-job training (35.4 percent) and technical training (25.9 percent). Computer-aided instruction received another 11.5 percent of the responses. However, the highest percentile of responses (29.1 percent) were credited to those individuals with no familiarity of this concept.

When evaluating responses by category, Airmen and NCOs agreed that

on-the-job training was preferred as the mode of training with 34 and 27.4 percent of the responses. However, NCOs also had relatively high percentiles for technical training (26.2 percent) and computer-aided instruction (14.3 percent). SNCOs selected technical training as the preferred mode of training with 35.7 percent, but

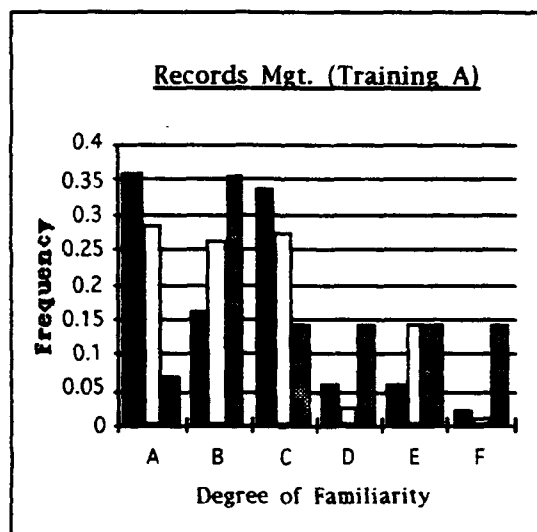


Figure F-44. Records Management (Training A)

responses were also equally distributed among the other training modes with 14.3 percent each. The number of individuals responding with no familiarity decreased as rank increased, with a considerable drop between NCOs and SNCOs. Differences between category responses were found to be significant using Chi Square analysis with a resulting probability of .024. Figure F-44 represents the results by category.

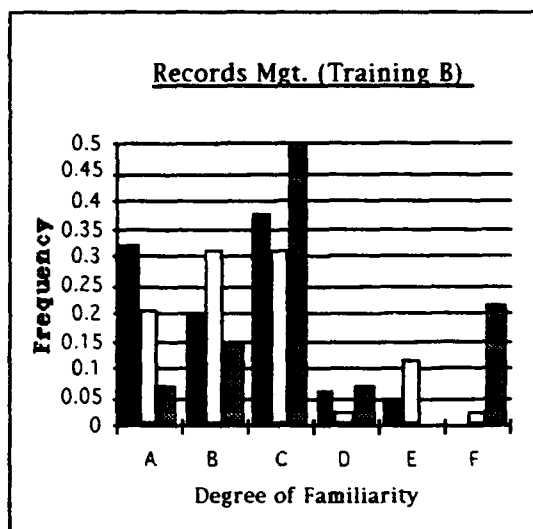


Figure F-45. Records Management (Training B)

(Training B) Knowledge of legal requirements in the life cycle management of information. Modes of training receiving the highest percentiles for this concept were on-the-job training (35.4 percent) and technical training (25.9 percent). Computer-aided instruction received another 8.2 percent of the responses. It is again important to note that 23.1

percent of respondents had no familiarity with this concept.

When analyzing the results by category, the number of individuals selecting option 1--completely unfamiliar with concept--decreased as the rank increased, particularly between NCOs and SNCOs. Airmen and SNCOs agreed that on-the-job training was the most preferred training option with 38 and 50 percent of the responses. NCO responses were equally distributed between OJT and technical training, receiving 31.3 percent of the responses. Differences between category responses were found to be significant using Chi Square with a resulting probability of .002. Figure F-45 shows results by category.

Automation Requirements.

(Current) Software and hardware often are not appropriate to the processes they are supposed to enhance. Training is inadequate, and the vast majority of automated capability is untapped. Once again, responses were fairly evenly distributed among all options. However, the highest percentile (24.8) was for individuals having no familiarity with this concept. Of the options for some degree of familiarity, option 4--concept familiar; organizational steps in direction have been taken--received the highest response rate at 22.7 percent. The highest level of familiarity received 21.3 percent of the responses. Lower levels of familiarity received a total response rate of 31.2 percent.

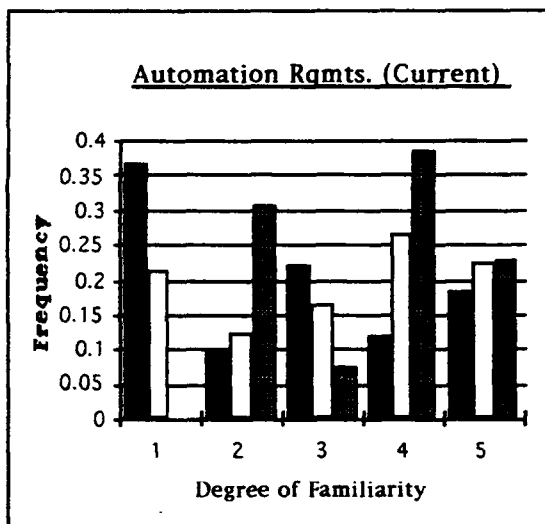


Figure F-46. Automation Requirements (Current)

When evaluating the results by category, the responses within each category are more evenly distributed among all the options. NCOs and SNCOs follow a similar curve with the highest frequencies occurring for option 4. Airmen responses were centered slightly lower on option 3, however, another 30.6 percent of Airmen selected either option 4 or 5.

Respondents of all ranks with no reported familiarity of this concept decreased in number as the rank increased.

Differences between category responses were found to be significant using Chi Square analysis with a resulting probability of .047. Figure F-46 presents the results by category.

(Future A) Creation of a centralized database to increase the power and capability of IM functions. Administrative communications, records, forms, publications and much more stored electronically for easy access. Data is shared between various documents. For this concept, lower degrees of familiarity received higher response rates than higher degrees of familiarity-

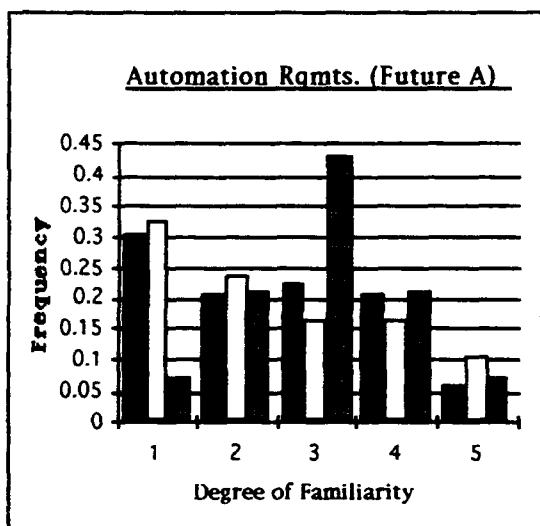


Figure F-47. Automation Requirements (Future A)

-option 2: 22.3 percent, option 3: 20.3 percent, option 4: 16.9 percent, and option 5: 14.9 percent. It is noteworthy that the highest overall response rate was for individuals with no familiarity with this concept at 25.7 percent.

Within all categories, the responses centered around the lower three levels of familiarization and integration--options 2, 3, and 4, with few individuals selecting

option 5--completely integrated. It is important to note that for Airmen and NCOs, the highest percentile occurred for option 1--no familiarity with concept--with a 30.6 and 32.1 percent response rate. Figure F-47 outlines the results by category.

(Future B) Install systems and networks, to include running cable, connecting hardware and software, etc. Once again, the highest overall response rate was for individuals with no familiarity with this concept at 25.7

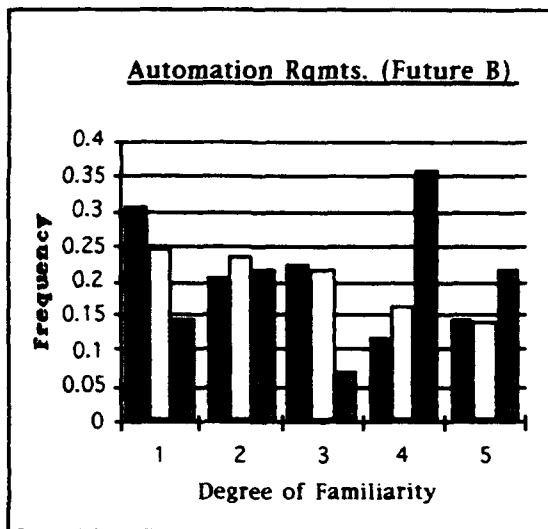


Figure F-48. Automation Requirements (Future B)

percent. Other response rates decreased as the degree of familiarity increased--option 2: 22.3 percent, option 3: 20.3 percent, option 4: 16.9 percent, and option 5: 14.9 percent.

Once again, the responses are distributed more evenly for each category. However, it is worth noting that Airmen selected option 3 most often, whereas NCOs selected option 2, and SNCOs selected option

4. For Airmen and NCOs the responses center around the lower levels of familiarity. Again, responses for option 1--no familiarity--decrease as rank increases. Figure F-48 graphically depicts the results by category.

(Future C) Manage networks and user requirements/ capabilities to ensure optimal system performance and reliability. The highest overall response rate was again for individuals with no familiarity with this concept at 30.2 percent. For options with some degree of familiarity, the lowest option received the highest percentile at 26.2 percent. The second highest percentile was option 4--concept familiar; unit steps in direction

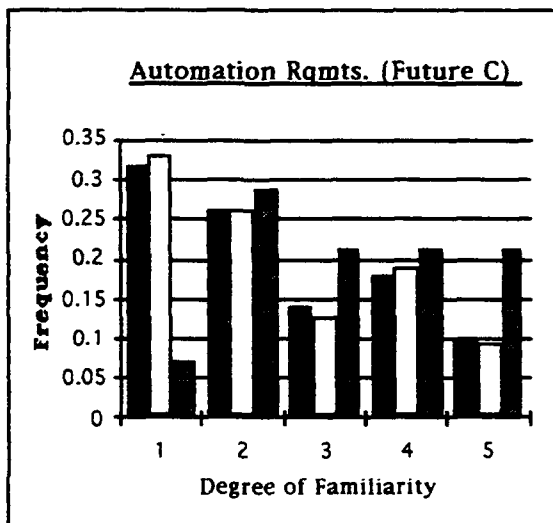


Figure F-49. Automation Requirements (Future C)

have been taken--at 18.8 percent.

Respondents in the Airmen, NCO, and SNCO categories selected option 2--the lowest level of familiarity--most often with 26, 25.9, and 28.6 percent response rates. For Airmen and NCOs, the number of individuals with higher levels of familiarity decrease; for SNCOs, remaining responses are evenly distributed. For Airmen and NCOs, a considerable number of respondents stated no familiarity with 32 and 32.9 percent response rates. Figure F-49 portrays the results by category.

(Future D) Involvement in critical decision-making groups (budgetary and systems requirements) to provide expert guidance on information needs.

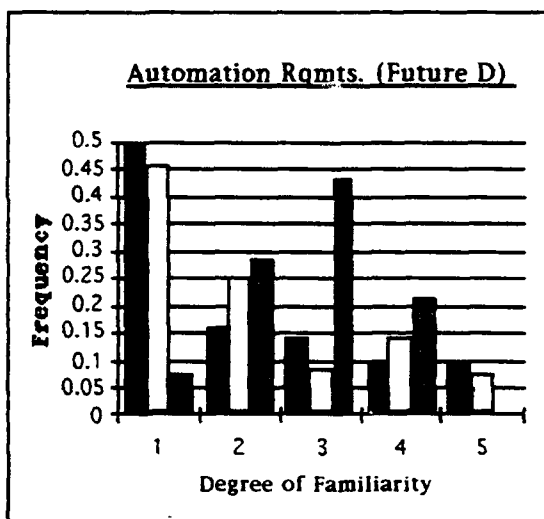


Figure F-50. Automation Requirements (Future D)

The highest overall response rate was again for individuals with no familiarity with this concept at 43.2 percent. Again, for responses by individuals with some degree of familiarity, the highest percentiles were at the lowest levels of familiarity. These percentiles started at 22.3 percent for option 2 and decreased to 7.4 percent for option 5.

Responses for Airmen and NCOs showed a high percentage of individuals with no familiarity with this concept at 50 and 45.2 percents. Among those individuals with some degree of familiarity, their level focused on the lowest degrees--options 2 and 3 for Airmen and options 2 and 4 for NCOs. For SNCOs, the highest percentile of respondents (42.9 percent) was for option 3--concept familiar; organization

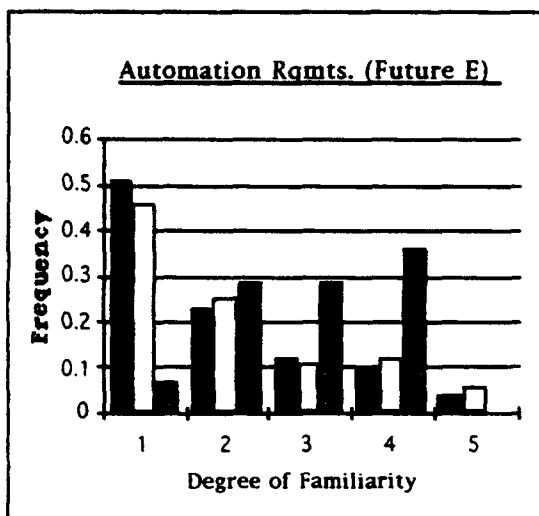


Figure F-51. Automation Requirements (Future E)

recognizes importance, but not yet enacted. Other responses were distributed between option 2 with 28.6 percent and option 4 with 21.4 percent. Differences between category responses were found to be significant using Chi Square analysis with a resulting probability of .013. Figure F-50 shows these results by category.

(Future E) Participation in the coordination process during the developmental stages of all automated information systems (AIS). The same response trend was apparent for this future concept. Individuals with no familiarity totalled 43.8 percent. Other percentiles started at 24.7 percent for option 2--the lowest level of familiarity--and decreased to 4.8 percent for option 5--the highest level of familiarity.

Responses from Airmen and NCOs showed a large percentage of individuals with no familiarity at 51 and 45.8 percents. In both categories, individuals with some degree of familiarity selected option 2 most often with 22.4 and 25.3 percent response rates. Degree of familiarity definitely centered around the lower level options. For SNCOs, responses were more evenly distributed over options 2, 3, and 4, with option 4 receiving the highest percentile of 35.7. Figure F-51 shows the results by category.

(Training A) Technical knowledge ensuring the efficient use and implementation of automated systems. Respondents overwhelmingly selected on-the-job training (35.2 percent) and technical training (23.4 percent) over

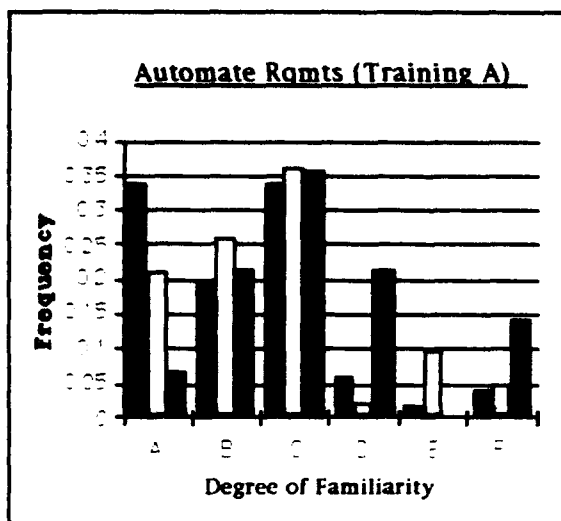


Figure F-52. Automation Requirements (Training A)

other options. However, an additional 24.1 percent of respondents were not familiar enough with this concept to respond with an appropriate training mode.

When evaluating responses by category, Airmen and NCOs agreed that on-the-job training and technical training were the two

most preferred methods of training. SNCOs also agreed with on-the-job training with a response rate of 35.7 percent, but selected technical training

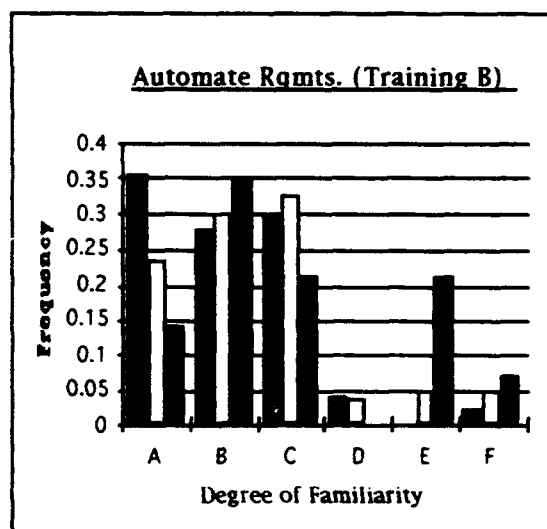


Figure F-53. Automation Requirements (Training B)

and off-duty-education with equal response rates of 21.4 percent, as well as official education with 14.3 percent. Individuals responding with no degree of familiarity decreased as rank increased, particularly between NCOs and SNCOs. Differences between category responses were found to be significant using Chi Square analysis with a resulting

probability of .045. Figure F-52 presents the results by category.

(Training B) Awareness of legal requirements in the lifecycle management of information. Again, the same trend continued with

respondents selecting on-the-job training (30.8 percent) and technical training (30.1 percent) over other options. An additional 26.7 percent of respondents had no familiarity with this concept.

When evaluating responses by category, Airmen and NCOs agreed by selecting on-the-job training and technical training most often. SNCOs, on the other hand, preferred technical training the most with 35.7 percent, followed by on-the-job training and computer-aided instruction each receiving 21.4 percent of the responses. Again, the number of individuals with no familiarity with this concept decreased as rank increased. Figure F-53 depicts the results by category.

Administrative Orders.

(Current) Processes orders by request; issues tracking number and

official authentication stamp.

Maintains justification and documentation file. For this concept, the majority of respondents selected option 5--concept is completely integrated--with 69.7 percent. The second highest percentile was 13.1 percent for option 2--concept familiar, but not enacted within my organization. Only 6.2 percent of respondents had no familiarity

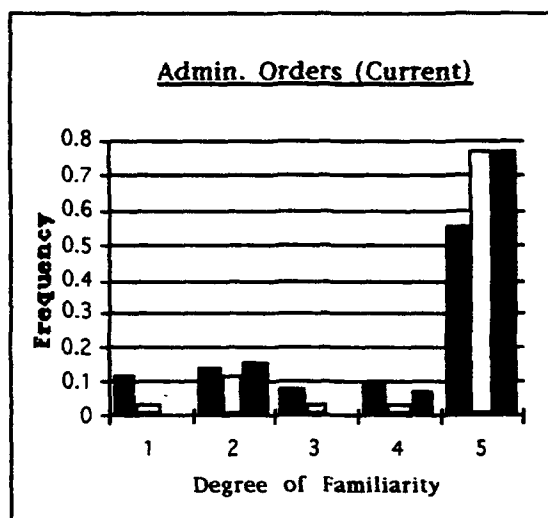


Figure F-54. Administrative Orders (Current)

with this.

When evaluating the results by category, the option receiving the highest response rate within all categories was overwhelmingly 5--concept

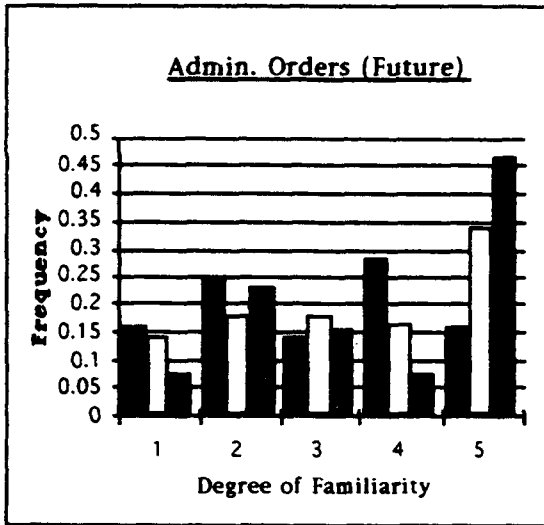


Figure F-55. Administrative Orders (Future)

orders and coordination with appropriate agencies accomplished electronically. Responses for this concept were more evenly distributed among all options. The highest response rate was for option 5--concept is completely integrated--at 28.8 percent. The lowest percentile for options with some degree of familiarity was 16.4 percent. An additional 14.4 percent of

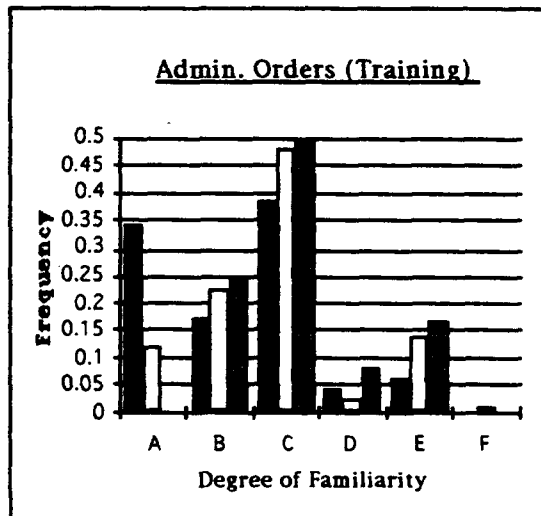


Figure F-56. Administrative Orders (Training)

completely integrated. Other options were selected, however, their percentiles never exceeded 16 percent. Few individuals responded with no familiarity with concept. Figure F-54 outlines the results by category.

(Future) Decentralization of orders publishing and management responsibilities to units and functional agencies. Processing

respondents had no familiarity with this concept.

When evaluating these results by category, the responses within all categories are much more evenly distributed among the possible options. Airmen reported their highest response rate at 28.6 percent for option 4, followed by option 2 with 24.5 percent. For both NCOs and SNCOs, the highest

response rate was for option 5 with 33.3 and 46.2 percents. NCOs, however, had their remaining responses spread out evenly across options 2, 3, and 4, whereas SNCOs centered on options 2 and 3. Respondents with no familiarity were few, however, their percentiles decreased as rank increased. Figure F-55 outlines the results by category.

(Training) Training on required processing procedures and electronic capabilities. Respondents selected on-the-job training most frequently at 45 percent. Technical training received 20.7 percent of the responses and computer-aided instruction, 11.4 percent. An additional 18.6 percent of respondents were not familiar with this concept.

Airmen, NCOs, and SNCOs selected on-the-job training most frequently as the preferred mode of training. Each category also had a sizeable percentage

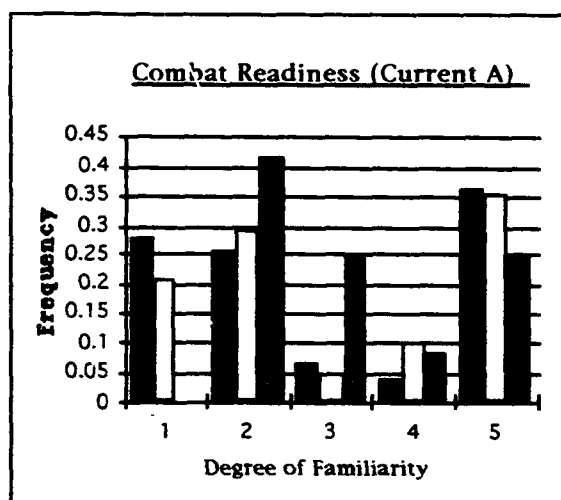


Figure F-57. Combat Readiness and Support (Current A)

of respondents selecting technical training. NCOs and SNCOs also selected computer-aided instruction as an option with 13.6 and 16.7 percent. Responses from individuals with no familiarity also decreased as rank increased, with no SNCOs selecting this option. Figure F-56 shows the results by category.

Combat Readiness and Support.

(Current A) Ensures that mobility taskings are filled, supplies are readied, and people are prepared for any deployment scenario. The highest number of respondents selected option 5--concept is completely integrated--for 34.8 percent. Option 2, which is the lowest degree of familiarity and

implementation within an organization, had the next highest percentile at 29.1. Only 14.9 percent of respondents selected either options 3 or 4. Again, over one-fifth of respondents (21.3 percent) stated they had no familiarity with the concept.

When analyzing responses from Airmen and NCOs, individuals selected option 5 most often with percentiles of 36.2 and 35.4. These were followed by option 2 with 25.5 and 29.3 percents. Only a few individuals selected options 3 and 4. For both categories, there was a high percentage of respondents having no familiarity with this concept--27.7 percent for Airmen and 20.7 percent for NCOs. For SNCOs, no respondents reported being completely unfamiliar with this concept. Responses with the highest percentiles were options 2 and 3 with

41.7 and 25 percents. Another 25 percent of SNCOs selected option 5. Figure F-57 outlines the results by category.

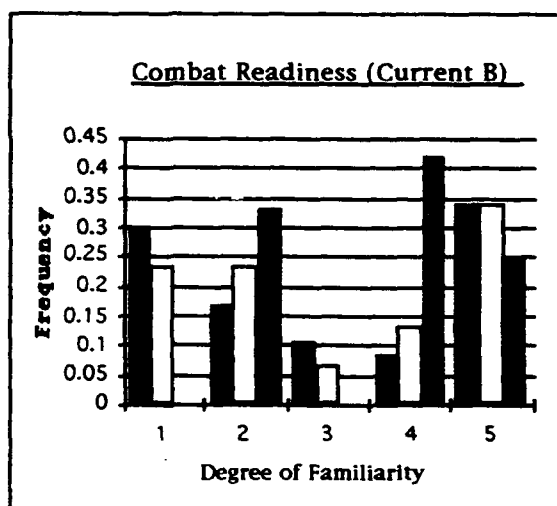


Figure F-58. Combat Readiness and Support (Current B)

(Current B) Reviews and updates contingency/disaster response plans to meet mandatory inspection criteria. The highest number of respondents again selected option 5 for 33.3 percent. Option 2 had the second highest percentile for options with some

degree of familiarity, followed by option 4 with 14.2 percent. An additional 23.4 percent of respondents selected option 1, stating they had no familiarity with the concept.

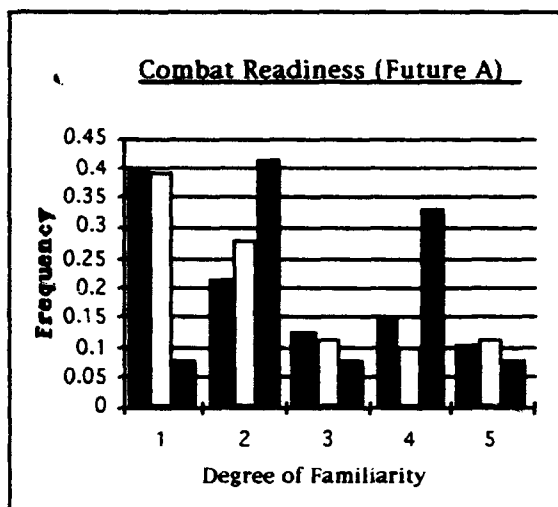


Figure F-59. Combat Readiness and Support (Future A)

Only respondents from the Airmen and NCO categories selected option 1--completely unfamiliar--with 29.8 and 23.2 percents. Among those individuals with some degree of familiarity, the highest frequency with both categories was for option 5 at 34 and 34.1 percents. The remaining responses for Airmen centered between the lower levels of familiarity--options 2 and

3, whereas NCOs selected options 2 and 4 most often. For SNCOs, members selected either option 2, 4, or 5, with option 4 receiving the highest frequency at 41.7 percent. Figure F-58 shows these results by category.

(Future A) Quantitatively evaluates support needs and supplies required to ensure adequate preparedness, and projection of necessary airlift requirements. Responses were distributed among all options with the greatest percentile occurring for individuals with no familiarity with the concept at 37 percent. Those individuals with some degree of familiarity most often selected option 2 at a 26.8 percent rate, followed by option 4 at 13.8 percent. Options 3 and 5 received 11.6 and 10.9 percent of the responses.

Responses from Airmen and NCOs showed a substantial number of individuals having no familiarity with this concept--40.4 percent for Airmen and 39.2 percent for NCOs. Those individuals with some degree of familiarity focused on option 2--the lowest level of familiarity. For SNCOs, the highest number of respondents selected option 2 at 41.7 percent, followed by option 4 at 33.3 percent. Figure F-59 presents the results by category.

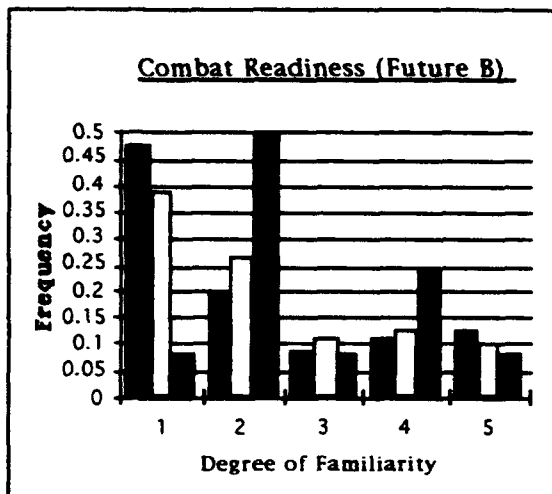


Figure F-60. Combat Readiness and Support (Future B)

some degree of familiarity most often selected option 2 at 26.3 percent, followed by option 4 at 13.1 percent. Options 3 and 5 each received slightly over 10 percent of the responses.

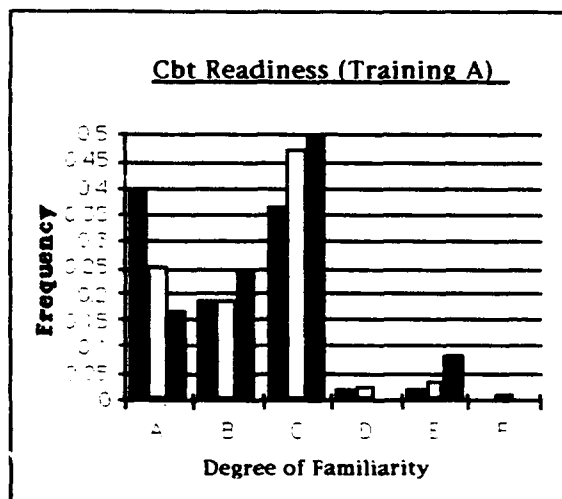


Figure F-61. Combat Readiness and Support (Training A)

50 percent, followed by option 4 at 25 percent. Figure F-60 displays the results by category.

(Future B) Trains with operational personnel to ensure support plans are workable and meet the needs of the organizational commanders. Responses for this concept followed the same pattern as the previous future statement. The greatest percentile occurred for individuals with no familiarity at 39.4 percent. Those individuals with some degree of familiarity most often selected option 2 at 26.3 percent, followed by option 4 at 13.1 percent. Options 3 and 5 each received slightly over 10 percent of the responses.

Responses from Airmen and NCOs again showed a substantial number of individuals having no familiarity with this concept--47.8 percent for Airmen and 39.2 percent for NCOs. Those individuals with some degree of familiarity focused on the options representing the lowest levels of familiarity. For SNCOs, the highest percentile occurred for option 2 at

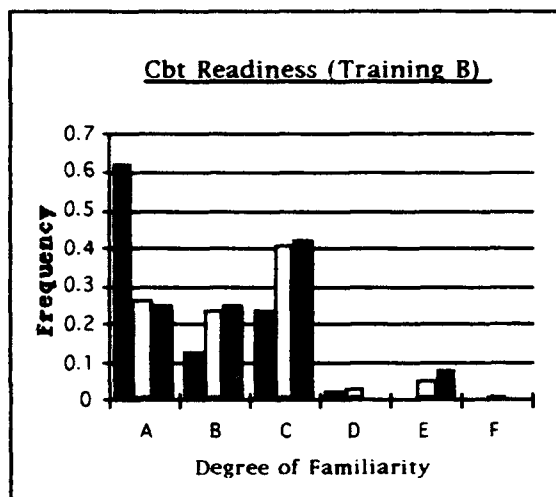


Figure F-62. Combat Readiness and Support (Training B)

(Training A) Training on readiness techniques and plans development. Once again, on-the-job training was selected most often at a 43.8 percent rate, followed by technical training at 19.7 percent. Another 29.9 percent of respondents had no familiarity with this concept.

When evaluating responses by category, all three groups selected on-the-job training, followed by technical training as their preferred training methods. Again, individuals with no familiarity with this concept decreased as rank increased. Figure F-61 presents results by category.

(Training B) Training on quantitative analysis techniques and formulas for projecting future requirements. The trend continues with on-the-job training receiving the highest response rate at 35 percent, followed by technical training at 19.7 percent. It is noteworthy in this case that 38.7 percent of respondents had no familiarity with this concept.

When evaluating responses by category, all three groups selected on-the-job training, followed by technical training as their preferred training methods. Again, individuals with no familiarity with this concept decreased as rank increased. Differences between category responses were found to be significant using Chi Square analysis with a resulting probability of .05. Figure F-62 presents results by category.

Information Processing (CC Support).

(Current) As information is requested from customer, answers are simply created/provided with no thought as to why the information is needed.

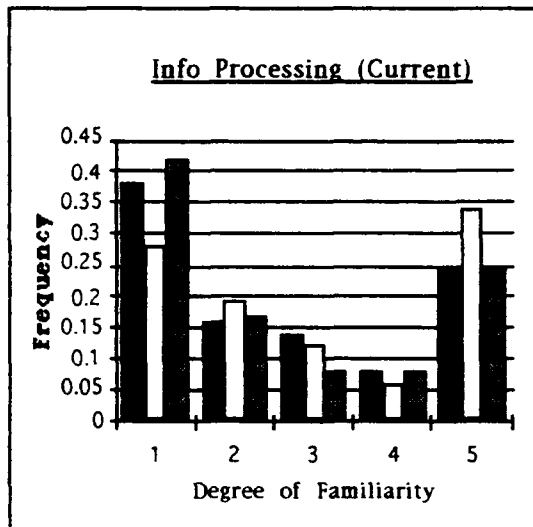


Figure F-63. Information Processing (Current)

When evaluating the results by category, each has a fairly high percentile for option 1--completely unfamiliar with concept. Surprisingly, the highest of these is for SNCOs at 41.7 percent. For individuals with some degree of familiarity, respondents from all

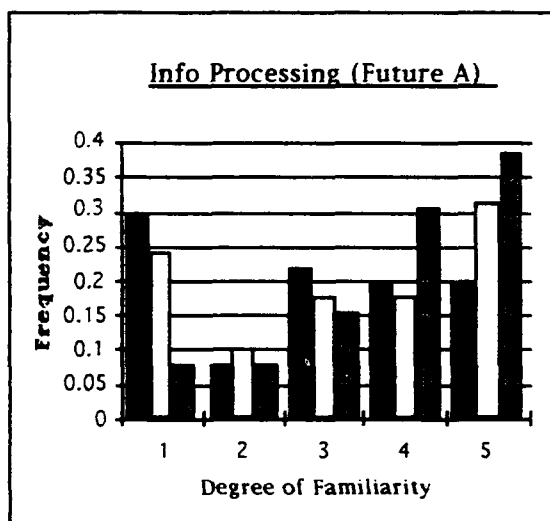


Figure F-64. Information Processing (Future A)

The highest response rate for individuals with some degree of familiarity was for option 5--concept is completely integrated--with 29.9 percent. This was followed by 18.1 percent for option 2 and 12.5 percent for option 3. Response rate for individuals with no familiarity was 32.6 percent.

When evaluating the results by category, each has a fairly high percentile for option 1--completely unfamiliar with concept. Surprisingly, the highest of these is for SNCOs at 41.7 percent. For individuals with some degree of familiarity, respondents from all three categories selected option 5 most frequently, followed by option 2. Figure F-63 displays the results by category.

(Future A) Analysis of the flow of information within the organization. The highest response rates for this concept were for option 5 with 28 percent, followed by option 4 with 19.6 percent, and

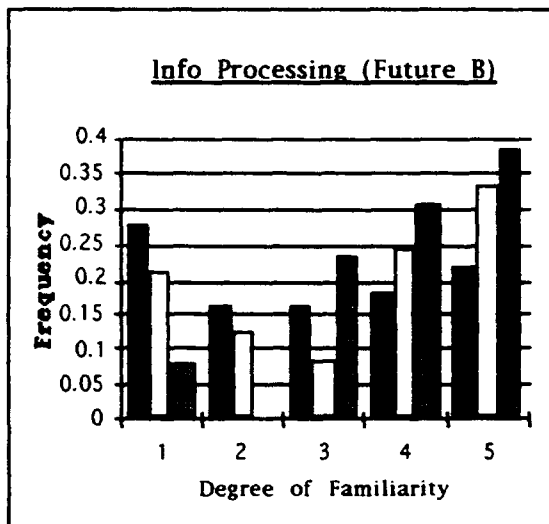


Figure F-65. Information Processing (Future B)

option 3 with 18.9 percent. Another 24.5 percent of respondents selected option 1 showing no familiarity with this concept.

A similar distribution of responses exists for each of the three categories, except that Airmen and NCOs selected option 1--completely unfamiliar with concept--more frequently; Airmen had a 30 percent frequency rate and

NCOs had a 23.8 percent rate. Individuals with some degree of familiarity in each of the three categories most often selected options 3, 4, or 5. Figure F-64 outlines the results by category.

(Future B) Evaluates the customers' needs for specific data, and where data is found with special attention paid to data never used or unnecessarily duplicated. Responses were fairly evenly distributed over all options. The highest rate was for option 5 with 29.9 percent, followed by option 4 with 22.9. Options 2 and 3 received lower percentages of 12.5 each. Another 22.2 percent of respondents selected option 1 showing no familiarity with this concept.

Once again, a similar distribution of responses exists for each of the three categories, except that Airmen and NCOs selected option 1 more frequently with 28 and 21 percents. Among those individuals with some degree of familiarity, responses from all categories more frequently occurred in option 5 with the second highest frequency in option 4. Figure F-65 displays the results by category.

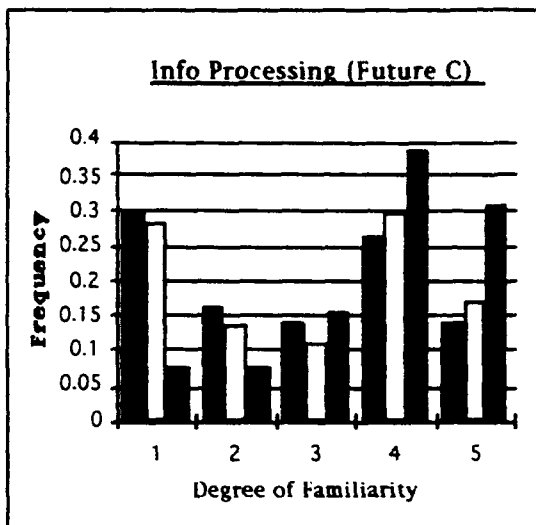


Figure F-66. Information Processing (Future C)

receiving slightly lesser percentiles. It is noteworthy that 27.1 percent of respondents selected option 1 showing no familiarity with this concept.

Distributions in the three categories remained the same, with high

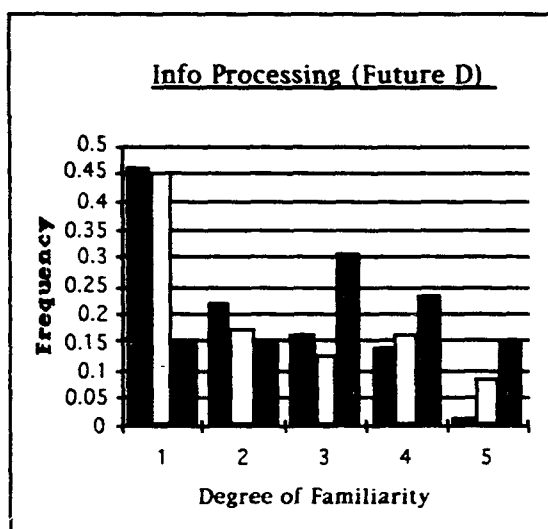


Figure F-67. Information Processing (Future D)

integration. Figure F-66 outlines the results by category.

(Future D) Development of Information Resource Centers to consolidate access to products/services. Responses focused on options 2, 3, and 4 with

(Future C) Evaluates and tracks requests for data to determine the customer's overall pattern of needs. The highest response rate was for option 4—concept familiar; organizational steps in direction have been taken—with 29.2 percent. Option 5 had the second highest response rate with 17.4 percent, with options 2 and 3

numbers of Airmen and NCOs reporting no familiarity with frequencies of 30 and 28.4 percent. Among individuals with some degree of familiarity, respondents from all categories selected option 4 most often. SNCOs reported another 30.8 percent who selected option 5, giving this category the highest percentage of individuals with a high degree of familiarity and

percentiles of 18.9, 15.4, and 16.1. However, over 42 percent of respondents stated they had no familiarity with this concept.

Airmen and NCOs reported a fairly high level of respondents with no familiarity on this concept; 46 percent for Airmen and 45 percent for NCOs. Among those individuals with some degree of familiarity, responses from all categories focussed on options 2, 3, and 4. SNCOs appeared to have a slightly higher percentage of respondees who selected options 3 and 4, than Airmen and NCOs. Figure F-67 displays the results by category.

(Training) Training in basic Information Resource Management (IRM) concepts, as well as information engineering techniques and database

manipulation. Respondents selected technical training as the most appropriate mode of training with 27 percent, followed closely by on-the-job training at 24.1 percent. It is noteworthy that 34.3 percent of respondents were not familiar enough with this concept to select a mode of training.

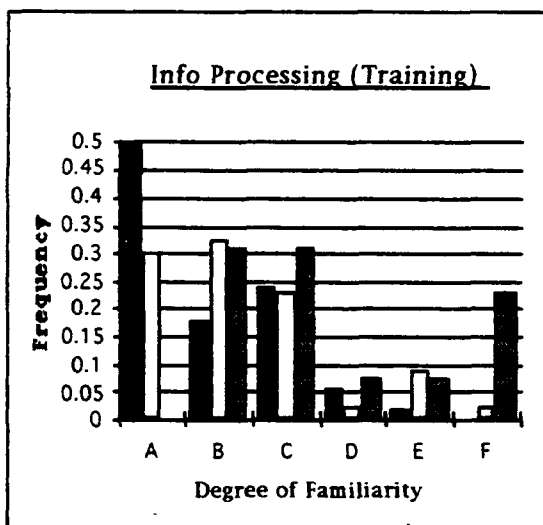


Figure F-68. Information Processing (Training)

When evaluating the responses by category, individual groups responded a little

differently. Airmen selected on-the-job training with 24 percent, followed by technical training with 18 percent. NCOs selected technical training as the most preferred training mode with 32.4 percent of responses, followed by on-the-job training with 23 percent. SNCOs, on the other hand, selected on-the-job training and technical training each with 30.8 percent of the responses, along

with official education with 23.1 percent. Individuals responding with no familiarity with this concept decreased as rank increased, with no SNCOs selecting this option. Differences between category responses were found to be significant using Chi Square analysis with a resulting probability of .001. Figure F-68 graphically presents the distribution of results.

Administrative Communications.

(Current) Customers place letters, awards, and performance reports into envelopes, or "Holey Joes," for BITS. Manually sorted and delivered. The majority of respondents (66.4 percent) selected option 5, with another 10.7 percent selecting option 2--the lowest level of familiarity--and 8.7 percent selecting option 4. Only 10.7 percent of the respondents stated they were not familiar with this concept.

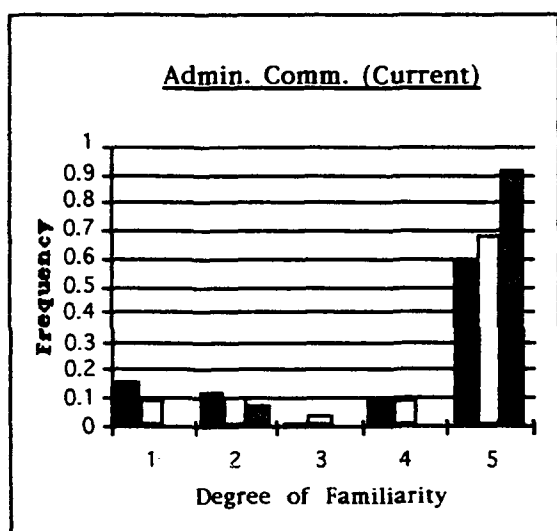


Figure F-69. Admin. Communications (Current)

Respondents in all categories selected option 5 most often--Airmen with a 60 percent rate, NCOs with a 67.4 percent rate, and SNCOs with an 84.6 percent rate. Other responses focused more on options 2 and 4, but percentiles did not go above 12. Sixteen percent of Airmen stated they were unfamiliar with this concept, compared to 9.3 percent of NCOs. No

SNCOs responded with non-familiarity. Figure F-69 presents the results by category.

(Future) Automated networking allows electronic information creation and transfer. Facilitates a near-paperless environment. Responses focused on

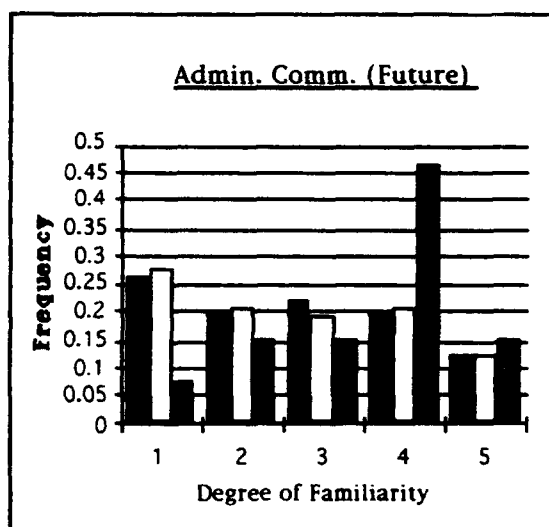


Figure F-70. Admin. Communications (Future)

frequency occurred for option 1--those individuals with no familiarity. The remaining responses were spread primarily across options 2, 3, and 4. For SNCOs, responses were greater for option 4 with a 46.2 percent response rate. Other responses were equal across options 2, 3, and 5. Figure F-70 presents

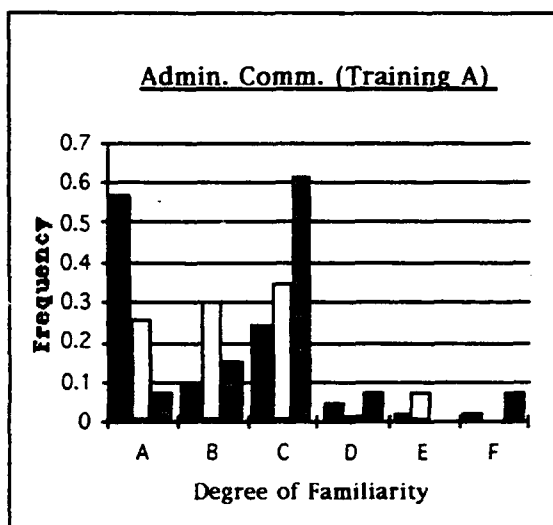


Figure F-71. Admin. Communications (Training A)

options 2, 3, and 4 with percentiles of 19.9, 19.9, and 22.6. A smaller percentile of respondents selected option 5 at 12.3 percent. The response rate of individuals with no familiarity with this concept was 25.3 percent.

Responses for this statement were more evenly distributed within each category.

For Airmen and NCOs, the highest results by category.

(Training A) Training to be primarily conducted on File Transfer Protocol (FTP). Respondents selected on-the-job training and technical training as the most appropriate modes of training at 33.8 and 21.6 percent. It is noteworthy, however, that a significant number, 35.3 percent of respondents, were not familiar with this concept.

All three categories selected on-the-job training followed by technical training as the preferred modes of training. Again, individuals responding with no degree of familiarity with this concept decreased as rank increased. Differences between category responses were found to be significant using Chi Square analysis with a resulting probability of .045. Figure F-71 graphically depicts the results by category.

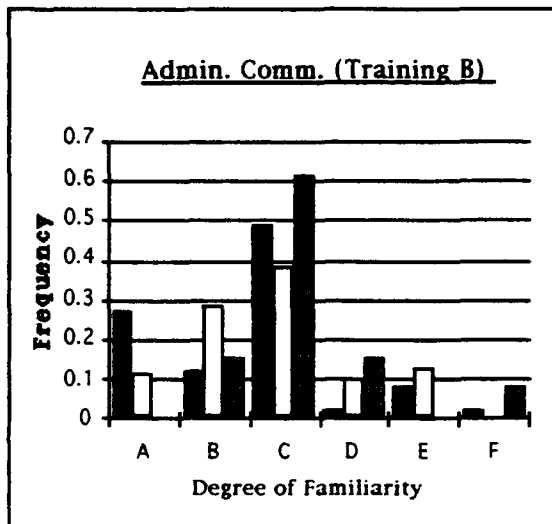


Figure F-72. Admin. Communications (Training B)

(Training B) Training on electronic mail (E-Mail). Again, respondents selected on-the-job training and technical training as the most appropriate modes of training at 44 and 21.3 percent. However, only 15.6 percent did not select a particular training mode do to nonfamiliarity.

All three categories selected on-the-job training followed by technical training as the preferred modes of training. Again, individuals responding with no degree of familiarity with this concept decreased in number as rank increased. Differences between category responses were found to be significant using Chi Square analysis with a resulting probability of .012. Figure F-72 graphically depicts the results by category.

Plans and Programs.

(Current A) Provides guidance to the customer on the "dos" and "don'ts" related to the management and processing of information. The majority of respondents (52.9 percent) selected option 5--concept is completely integrated. The next option with a considerable response was option 4--concept familiar;

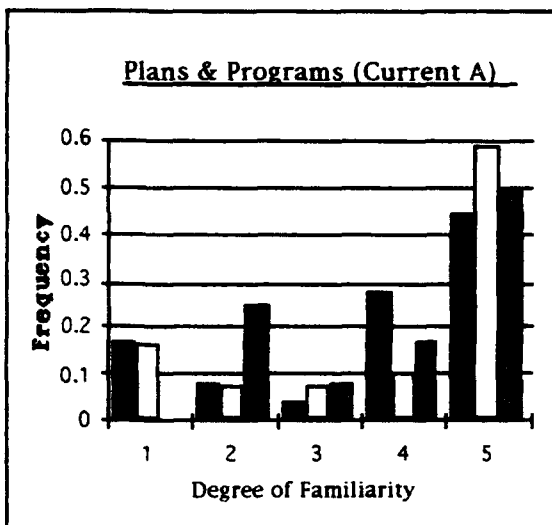


Figure F-73. Plans & Programs (Current A)

organizational steps in direction have been taken--with 16.4 percent. Respondents with no familiarity with this concept totalled 15 percent.

For all three categories, respondees selected option 5 most frequently--43.8 percent for Airmen, 58.8 percent for NCOs, and 50 percent for SNCOs. Only Airmen and NCOs gave responses reporting complete unfamiliarity with the

concept. Figure F-73 outlines the results by category.

(Current B) Analyzes the budgetary, manpower, physical, and system needs of the organization. Responses were much more evenly distributed for this concept. The option receiving the highest response rate was option 5 with 30.8 percent, followed by option 2 with 17.5 percent. Respondents with no

familiarity with this concept totalled 28 percent.

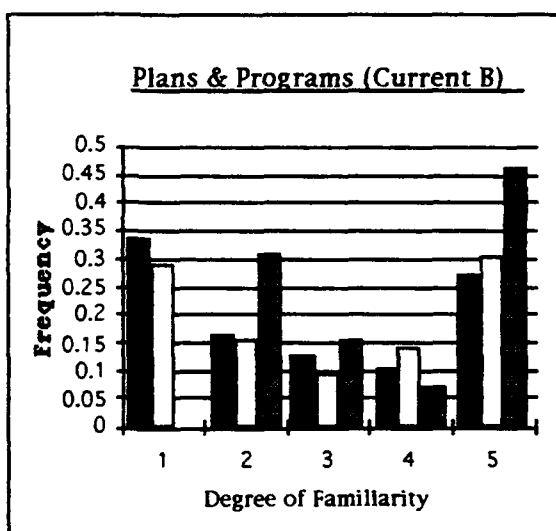


Figure F-74. Plans & Programs (Current B)

Respondees with some degree of familiarity selected option 5 most frequently in all three categories--27.1 percent for Airmen, 30.5 percent for NCOs, and 46.2 percent for SNCOs. Only Airmen and NCOs gave responses reporting complete unfamiliarity with the concept (29.2

and 29.3 percents). Figure F-74 presents the results by category.

(Future A) Analyzes present processes to ensure that the needs of the customer are being met in the most efficient and effective way possible. Responses were distributed fairly evenly over all options. The option with the highest response rate was option 5 at 29.6 percent. In this particular situation,

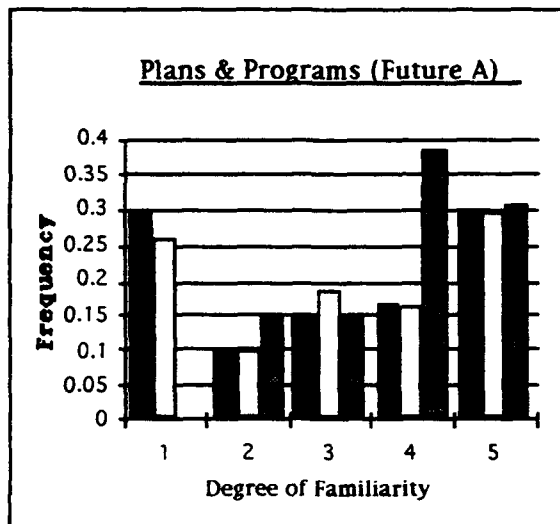


Figure F-75. Plans & Programs (Future A)

the frequency decreased as the level of familiarity and degree of organizational integration of options decreased. The response rate of individuals with no familiarity was 24.6 percent.

As for many other statements, only Airmen and NCOs gave responses reporting complete unfamiliarity with the concept at 29.2 and 25.9 percents. In each of these categories, those that were familiar selected option 5 most frequently. Among SNCOs, 38.5 percent of respondents selected option 4 and 30.8 percent selected option 5. Figure F-75 displays the results by category.

(Future B) Emphasis on the monetary values and costs involved when information is mismanaged. Responses were distributed evenly over the choices showing some degree of familiarity, with the highest response rate for choices 3 and 4 with 19.9 and 19.1 percents. Respondents with no familiarity with this concept numbered 31.2 percent.

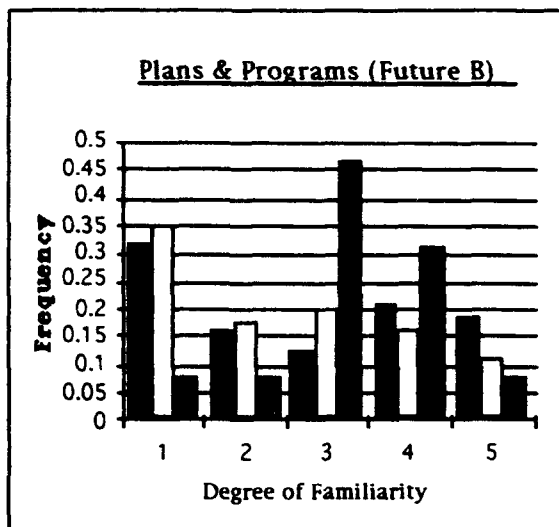


Figure F-76. Plans & Programs (Future B)

with a 46.2 percent rate, followed by option 4 with a 30.8 percent rate. Figure F-76 outlines the results by category.

(Training A) Knowledge of programs and concepts such as the Defense

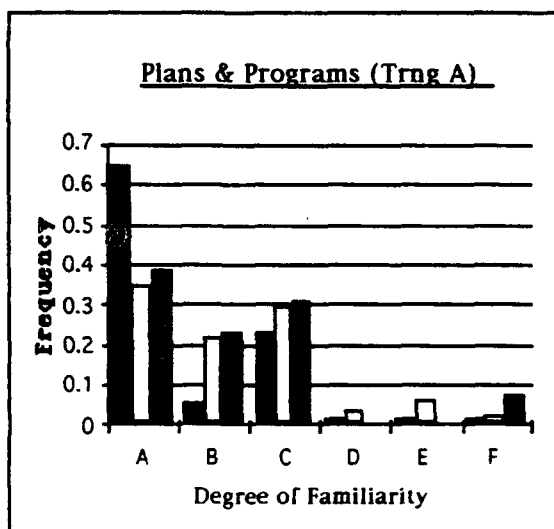


Figure F-77. Plans & Programs (Training A)

Airmen and NCO respondents selected option 1--completely unfamiliar with this concept--with a 31.3 and 35 percent frequency rate. Among those individuals with some degree of familiarity, responses were more evenly distributed among the different options. Among SNCOs, respondents selected option 3 most frequently

Business Operations Fund (DBOF), and their impact on organizations. Once again, on-the-job training and technical training received the highest response rates with 27.4 and 16.3. However, it is also important to note that almost 46 percent of respondents were not familiar enough with this concept to be able to select a training mode.

When comparing the results by category, Airmen overwhelmingly selected on-the-job training at 31.3 percent as the preferred method of training. NCOs selected this option as well with a 29.7 percent rate, but also noted technical training as another preferred

mode with 21.6 percent. This trend continued for SNCOs with a response rate of 30.8 percent for on-the-job training and 23.1 percent for technical training. It should be noted that SNCOs had a slightly higher number of individuals with no familiarity with this subject than NCOs. Figure F-77 depicts the results by category.

(Training B) Training on ways to better forecast long-term needs--strategic planning. On-the-job training and technical training once again received the highest response rates with 33.6 and 24.1 percents. The number of

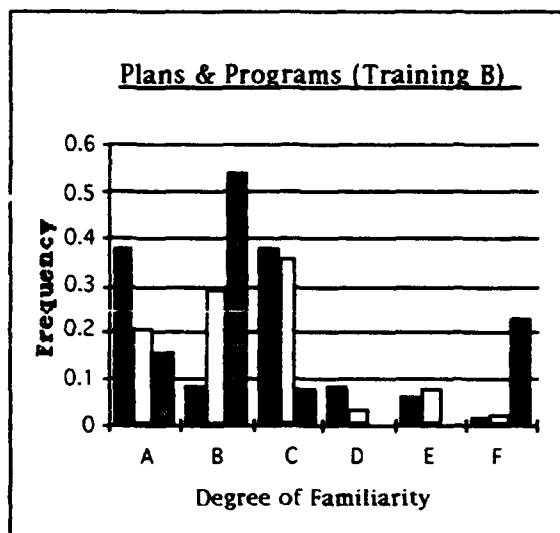


Figure F-78. Plans & Programs (Training B)

individuals with no familiarity was lower than the previous training concept at 26.3 percent.

Responses among the three different categories differed to some degree. Airmen overwhelmingly selected on-the-job training with 37.5 percent of the responses. NCOs selected on-the-job training as the most preferred method of training (35.5 percent), however, they also

selected technical training with a 28.9 percent response rate. SNCOs, on the other hand, selected technical training as the most preferred choice with a 53.8 percent response rate, followed by official education with a 23.1 percent rate. Differences between category responses were found to be significant using Chi Square analysis with a resulting probability of .000. Figure F-78 shows the results by category.

(Training C) Training on strategies for business process improvement and IDEF. Again, on-the-job training and technical training received the highest response rates with 25.2 and 21.5 percents. The number of individuals with no familiarity with this concept stood at 37 percent.

Responses once again differ by category. Airmen selected on-the-job training as the preferred method with a 31.3 percent response rate. NCOs selected technical training most often with a 28.4 percent response rate, followed by on-the-job training at 23 percent and computer-aided instruction at 12.2 percent. SNCOs also selected technical training most often with a 30.8

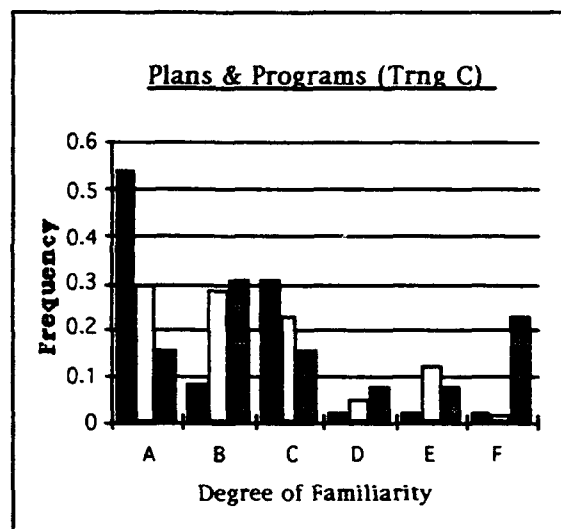


Figure F-79. Plans & Programs (Training C)

percent response rate, with official education as their next highest method at 23.1 percent, then on-the-job training at 15.4 percent. Respondents with no familiarity decreased as ranks increased. Differences between category responses were found to be significant using Chi Square analysis with a resulting probability of .000. Figure F-79 shows results by category.

Communications Security.

(Current) Manually prepare and monitor accountable control records. Control messages and other accountable mail from creation until destruction. A very high percentage of respondents selected option 5--concept is completely integrated--at 62.8 percent. Another 26.9 percent of respondents selected

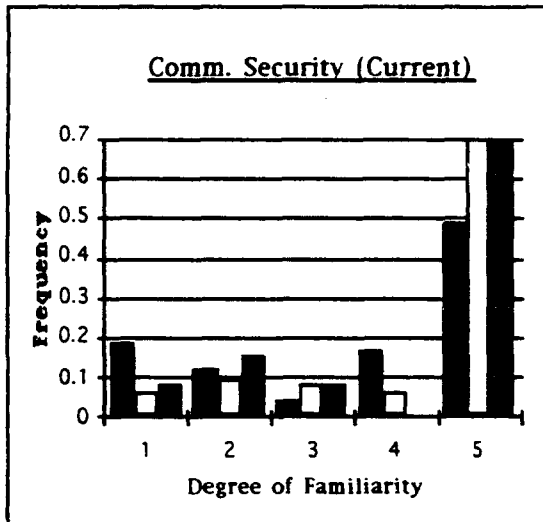


Figure F-80. Communications Security (Current)

options with lower degrees of familiarity and organizational implementation. Another 10.3 percent of respondents were not familiar with this concept.

Respondents in each of the categories selected option 5 most often with Airmen response rate at 49 percent, NCO response rate at 69.9, and SNCO response rate at 69.2. Few individuals in any of the

categories stated they had no familiarity with the concept. Figure F-80 presents the results by category.

(Future) Maintain accountable messages on central, indexed database which automatically displays outdated messages. COMPUSEC requirements provide auditability/controlled access. The highest percentage of respondents

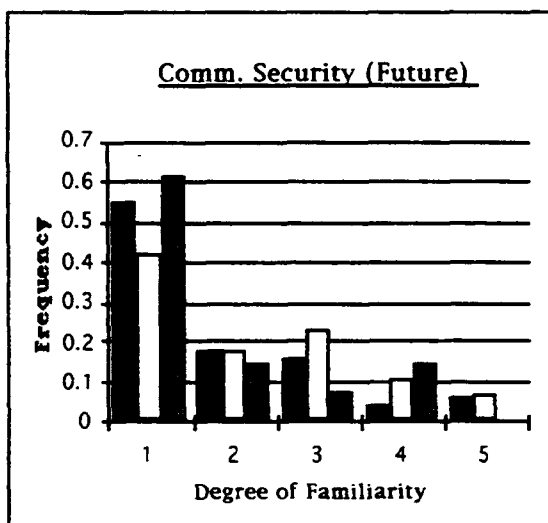


Figure F-81. Communications Security (Future)

(47.9 percent) were not familiar with this concept. Options 2 and 3 received a total response rate of 37 percent, with options 4 and 5 each receiving percentiles under 10 percent.

For this concept, the largest percentage of respondents in all categories reported no familiarity with this concept--55.1 percent for Airmen, 41.7 percent for NCOs,

and 61.5 percent for SNCOs. Those individuals that did have some degree of familiarity and implementation within their organizations selected option 2 and 3--the lower levels of familiarity. Figure F-81 presents the results by category.

(Training) Required training on database access and manipulation. Respondents selected on-the-job training and technical training as the most

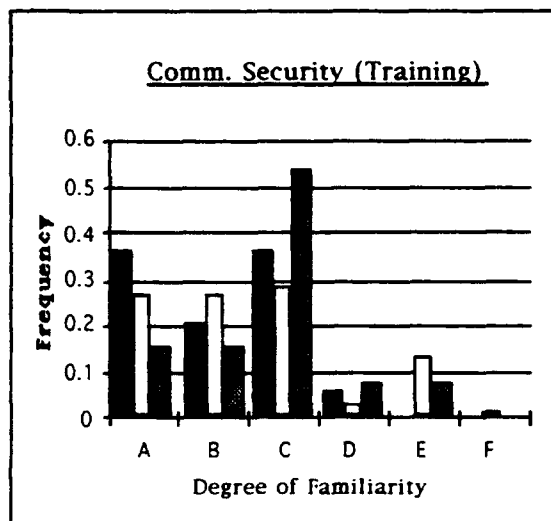


Figure F-82. Communications Security (Training)

appropriate training modes in 33.8 and 23.5 percent of the replies. Respondents with no familiarity of this concept stood at 29.4 percent.

Respondents agreed in all categories that on-the-job training was the most preferred method of training, followed by technical training. However, NCOs also noted computer-aided instruction as another viable method at 13.5

percent. Again, the number of respondents with no degree of familiarity decreased as the rank increased. Figure F-82 depicts the results by category.

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Vita

Captain Mary E. Duncan was born 23 May 1953 in Decatur, Illinois. She graduated from Stephen Decatur High School in 1971. She earned a Bachelor of Music degree with a double major in instrumental music education and music therapy from Michigan State University in 1976. Capt Duncan utilized her expertise working in numerous long term care facilities during the six years immediately following graduation.

Capt Duncan enlisted in the Air Force in November 1982, and entered training at OTS in March 1983. She received her commission in June of that year. Capt Duncan served as Administrative Officer, Group Executive Officer, and Squadron Commander within the 3250th Technical Training Wing, Lackland AFB, Texas. In 1985, she was reassigned to the 4400th Management Engineering Squadron at Langley AFB, Virginia. While there, she held a dual-hatted position as Headquarters Section Commander, as well as Executive Officer for the Director of Manpower and Organization at HQ TAC. In 1989, Capt Duncan moved to Keesler AFB in Biloxi, Mississippi, where she was a technical training instructor for the Information Management officer courses. While there, she received the Master Instructor certification.

Capt Duncan began studies at the Air Force Institute of Technology at Wright-Patterson AFB, Ohio, in May 1992. In July 1993, she was selected to become the Chief, Requirements and Business Process Analysis Branch, for the United States Air Force Europe's Directorate of Information Management.

Capt Duncan has one son, Christopher Sean.

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Captain Ted L. Roberts was born on 26 December 1963 in Sherman, Texas. He graduated from Upper Heyford High School at RAF Croughton, Great Britain, in 1982. He earned a Bachelor of Arts degree in English from Texas A&M University in 1986.

Capt Roberts was commissioned into the Air Force directly out of college in December 1986. Capt Roberts served as Executive Officer for the 3482nd School Squadron at Naval Technical Training Center Corry Station, Pensacola, Florida, where he remained until reassignment to Hanscom AFB, Massachusetts, in January 1989. He served as the Executive Officer to the Director of the Command, Communications, and Control Countermeasures and Intelligence System Program Office (SPO) until August 1989. Capt Roberts then moved to the Joint Services Imagery Processing Systems SPO to be the Chief of Configuration Management, a position he maintained until June 1990. From that time until May 1992, Capt Roberts served as Chief, Field Operations Branch of the Networking Capabilities Program. He was personally responsible for procuring and installing over \$12 Million in automation equipment.

Capt Roberts began studies at the Air Force Institute of Technology at Wright-Patterson AFB, Ohio, in May 1992. In April 1993, he was selected to become Chief, Base Information Management at Sembach AB in Germany. He will assume this assignment upon his completion of Squadron Officer School, in residence, in February 1994.

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REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

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1. AGENCY USE ONLY (Leave blank) 2. REPORT DATE December 1993 3. REPORT TYPE AND DATES COVERED Master's Thesis

4. TITLE AND SUBTITLE AIR FORCE INFORMATION MANAGEMENT (IM): A 1993 SNAPSHOT OF CURRENT AND PROJECTED ROLES OF ENLISTED INFORMATION MANAGERS 5. FUNDING NUMBERS

6. AUTHOR(S) Mary E. Duncan, Captain, USAF Ted L. Roberts, Captain, USAF

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Air Force Institute of Technology, WPAFB OH 45433-6583 8. PERFORMING ORGANIZATION REPORT NUMBER AFIT/GIR/LAR/93D-5

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) HQ AFIC/IMX 102 Hall Blvd STE 123F San Antonio TX 78243-7039 10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT 12b. DISTRIBUTION CODE

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13. ABSTRACT (Maximum 200 words) This study provides a preliminary view of the level of familiarity enlisted information managers have of changing roles, responsibilities, and initiatives within Information Management. Using a three-phase investigative methodology that combined e-mail, interviews, and mail surveys, the authors addressed the changing roles and responsibilities of enlisted information managers and their familiarity with these changes. We found that although individuals agree that the role is changing, many are performing the traditional administrative taskings. The lower ranks still perceive themselves as "clerks," whereas senior enlisted members consider themselves "managers." Although the career field name changed to Information Management, the supporting attitude has not. It is apparent that enlisted members in the field are not familiar with concepts and initiatives which are being projected as future responsibilities. Knowledge level tends to increase as rank increases, but this familiarity-level is attributed primarily to personal research. The major recommendation is to increase the level of communication to career field members. Another focuses on the need to provide additional training to NCOs. Individuals would benefit from educational programs at AFIT or the Community College of the Air Force.

14. SUBJECT TERMS Information Resource Management, Roles (Enlisted Information Managers), Training, Teaching Methods, Information Management 15. NUMBER OF PAGES 200 16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT Unclassified 18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified 19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified 20. LIMITATION OF ABSTRACT UL

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